

SEQUENCE LISTING

<110> University of North Carolina-Chapel Hill
Ting, Jenny
Linhoff, Michael
Harton, Johnathan
Williams, Kristi
Lich, John
O'Connor, William
Moore, Christopher
Davis, Beckley
Brickey, W. Jane
Conti, Brian
Zhang, Jinghua
Zhu, Xin-Sheng

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Gly Leu Arg His Pro Asn Cys Lys Leu Gln Asn Leu Arg Leu Lys Arg
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Cys Arg Ile Ser Ser Ser Ala Cys Glu Asp Leu Ser Ala Ala Leu Ile
755 760 765

Ala Asn Lys Asn Leu Thr Arg Met Asp Leu Ser Gly Asn Gly Val Gly
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Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Gln Leu Glu Ser Gly Ala
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Cys Gln Glu Met Ala Ser Val Leu Gly Thr Asn Pro His Leu Val Glu
820 825 830

Leu Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu Gly Leu Arg Leu Leu
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Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu Arg Thr Leu Trp Leu
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890

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<400> 6

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Gly Thr Ala Thr Glu Leu Gly Glu Gly Lys Ile Pro Trp Gly Ser Met
35          40          45

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Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Leu Ile Thr His Phe
50          55          60

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Gly Pro Glu Glu Ala Trp Arg Leu Ala Leu Ser Thr Phe Glu Arg Ile
65          70          75          80

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Asn Arg Lys Asp Leu Trp Glu Arg Gly Gln Arg Glu Asp Leu Val Arg
85          90          95

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Asp Thr Pro Pro Gly Gly Pro Ser Ser Leu Gly Asn Gln Ser Thr Cys
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Leu Leu Glu Val Ser Leu Val Thr Pro Arg Lys Asp Pro Gln Glu Thr
 115 120 125

Tyr Arg Asp Tyr Val Arg Arg Lys Phe Arg Leu Met Glu Asp Arg Asn
 130 135 140

Ala Arg Leu Gly Glu Cys Val Asn Leu Ser His Arg Tyr Thr Arg Leu
 145 150 155 160

Leu Leu Val Lys Glu His Ser Asn Pro Met Gln Val Gln Gln Gln Leu
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Leu Asp Thr Gly Arg Gly His Ala Arg Thr Val Gly His Gln Ala Ser
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Pro Ile Lys Ile Glu Thr Leu Phe Glu Pro Asp Glu Glu Arg Pro Glu
 195 200 205

Pro Pro Arg Thr Val Val Met Gln Gly Ala Ala Gly Ile Gly Lys Ser
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Met Leu Ala His Lys Val Met Leu Asp Trp Ala Asp Gly Lys Leu Phe
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Gln Gly Arg Phe Asp Tyr Leu Phe Tyr Ile Asn Cys Arg Glu Met Asn
 245 250 255

Gln Ser Ala Thr Glu Cys Ser Met Gln Asp Leu Ile Phe Ser Cys Trp
 260 265 270

Pro Glu Pro Ser Ala Pro Leu Gln Glu Leu Ile Arg Val Pro Glu Arg
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Asp Pro Gln Gly Pro Trp Cys Leu Cys Trp Glu Glu Lys Arg Pro Thr
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Ser Leu Leu Ile Thr Thr Arg Pro Thr Ala Leu Glu Lys Leu His Arg

340

345

350

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Glu Arg Lys Glu Tyr Phe Tyr Lys Tyr Phe His Asn Ala Glu Gln Ala
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Cys Phe Val Pro Leu Val Cys Trp Val Val Cys Thr Cys Leu Gln Gln
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Gln Leu Glu Gly Gly Gly Leu Leu Arg Gln Thr Ser Arg Thr Thr Thr
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Ala Val Tyr Met Leu Tyr Leu Leu Ser Leu Met Gln Pro Lys Pro Gly
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Ala Pro Arg Leu Gln Pro Pro Pro Asn Gln Arg Gly Leu Cys Ser Leu
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Ala Ala Asp Gly Leu Trp Asn Gln Lys Ile Leu Phe Glu Glu Gln Asp
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Leu Arg Lys His Gly Leu Asp Gly Glu Asp Val Ser Ala Phe Leu Asn
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Met Asn Ile Phe Gln Lys Asp Ile Asn Cys Glu Arg Tyr Tyr Ser Phe
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Ile His Leu Ser Phe Gln Glu Phe Phe Ala Ala Met Tyr Tyr Ile Leu
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Asp Glu Gly Glu Gly Gly Ala Gly Pro Asp Gln Asp Val Thr Arg Leu
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Arg Phe Leu Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu
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Lys Ser Leu Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu
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Gln Trp Ile Gln Ser Lys Ala Gln Ser Asp Gly Ser Thr Leu Gln Gln
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Gly Ser Leu Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu
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Phe Ile Gln Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn
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Ile Ala Ser Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg
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Cys Arg Ser Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala
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Asp Gly Glu Asp Arg Ala Arg Cys Ser Ala Gly Ala His Thr Leu Leu
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Val Gln Leu Arg Pro Glu Arg Thr Val Leu Leu Asp Ala Tyr Ser Glu
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His Leu Ala Ala Ala Leu Cys Thr Asn Pro Asn Leu Ile Glu Leu Ser
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Leu Tyr Arg Asn Ala Leu Gly Ser Arg Gly Val Lys Leu Leu Cys Gln
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Gly Leu Arg His Pro Asn Cys Lys Leu Gln Asn Leu Arg Leu Lys Arg
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Cys Arg Ile Ser Ser Ser Ala Cys Glu Asp Leu Ser Ala Ala Leu Ile
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Ala Asn Lys Asn Leu Thr Arg Met Asp Leu Ser Gly Asn Gly Val Gly
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Phe Pro Gly Met Met Leu Leu Cys Glu Gly Leu Arg His Pro Gln Cys
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Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Gln Leu Glu Ser Gly Ala
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Cys Gln Glu Met Ala Ser Val Leu Gly Thr Asn Pro His Leu Val Glu
 820 825 830

Leu Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu Gly Leu Arg Leu Leu
835 840 845

Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu Arg Thr Leu Trp Leu
850 855 860

Trp Leu Asp Ser Cys Gly Leu Thr Ala Lys Ala Cys Glu Asn Leu Tyr
865 870 875 880

Phe Thr Leu Gly Ile Asn Gln Thr Leu Thr Asp Leu Tyr Leu Thr Asn
885 890 895

Asn Ala Leu Gly Asp Thr Gly Val Arg Leu Leu Cys Lys Arg Leu Ser
900 905 910

His Pro Gly Cys Lys Leu Arg Val Leu Trp Leu Phe Gly Met Asp Leu
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Asn Lys Met Thr His Ser Arg Leu Ala Ala Leu Arg Val Thr Lys Pro
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Tyr Leu Asp Ile Gly Cys
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Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Leu Ile Thr His Phe
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Gly Pro Glu Glu Ala Trp Arg Leu Ala Leu Ser Thr Phe Glu Arg Ile
65 70 75 80

Asn Arg Lys Asp Leu Trp Glu Arg Gly Gln Arg Glu Asp Leu Val Arg
85 90 95

Asp Thr Pro Pro Gly Gly Pro Ser Ser Leu Gly Asn Gln Ser Thr Cys
100 105 110

Leu Leu Glu Val Ser Leu Val Thr Pro Arg Lys Asp Pro Gln Glu Thr
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Tyr Arg Asp Tyr Val Arg Arg Lys Phe Arg Leu Met Glu Asp Arg Asn
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Ala Arg Leu Gly Glu Cys Val Asn Leu Ser His Arg Tyr Thr Arg Leu
 145 150 155 160

Leu Leu Val Lys Glu His Ser Asn Pro Met Gln Val Gln Gln Gln Leu
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Leu Asp Thr Gly Arg Gly His Ala Arg Thr Val Gly His Gln Ala Ser
 180 185 190

Pro Ile Lys Ile Glu Thr Leu Phe Glu Pro Asp Glu Glu Arg Pro Glu
 195 200 205

Pro Pro Arg Thr Val Val Met Gln Gly Ala Ala Gly Ile Gly Lys Ser
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Met Leu Ala His Lys Val Met Leu Asp Trp Ala Asp Gly Lys Leu Phe
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Gln Gly Arg Phe Asp Tyr Leu Phe Tyr Ile Asn Cys Arg Glu Met Asn
 245 250 255

Gln Ser Ala Thr Glu Cys Ser Met Gln Asp Leu Ile Phe Ser Cys Trp
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Pro Glu Pro Ser Ala Pro Leu Gln Glu Leu Ile Arg Val Pro Glu Arg
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Leu Leu Phe Ile Ile Asp Gly Phe Asp Glu Leu Lys Pro Ser Phe His
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Glu Leu Leu Leu Asn Ser Leu Ile Arg Lys Lys Leu Leu Pro Glu Leu
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Ser Leu Leu Ile Thr Thr Arg Pro Thr Ala Leu Glu Lys Leu His Arg
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Leu Leu Glu His Pro Arg His Val Glu Ile Leu Gly Phe Ser Glu Ala

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 Glu Arg Lys Glu Tyr Phe Tyr Lys Tyr Phe His Asn Ala Glu Gln Ala
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 Ile His Leu Ser Phe Gln Glu Phe Phe Ala Ala Met Tyr Tyr Ile Leu
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 545 550 555 560
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 565 570 575
 Lys Ser Leu Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu
 580 585 590
 Gln Trp Ile Gln Ser Lys Ala Gln Ser Asp Gly Ser Thr Leu Gln Gln
 595 600 605

Gly Ser Leu Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu
610 615 620

Phe Ile Gln Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn
625 630 635 640

Ile Ala Ser Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg
645 650 655

Cys Arg Ser Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala
660 665 670

Asp Gly Glu Asp Arg Ala Arg Cys Ser Ala Gly Ala His Thr Leu Leu
675 680 685

Val Gln Leu Arg Pro Glu Arg Thr Val Leu Leu Asp Ala Tyr Ser Glu
690 695 700

His Leu Ala Ala Ala Leu Cys Thr Asn Pro Asn Leu Ile Glu Leu Ser
705 710 715 720

Leu Tyr Arg Asn Ala Leu Gly Ser Arg Gly Val Lys Leu Leu Cys Gln
725 730 735

Gly Leu Arg His Pro Asn Cys Lys Leu Gln Asn Leu Arg Leu Lys Arg
740 745 750

Cys Arg Ile Ser Ser Ser Ala Cys Glu Asp Leu Ser Ala Ala Leu Ile
755 760 765

Ala Asn Lys Asn Leu Thr Arg Met Asp Leu Ser Gly Asn Gly Val Gly
770 775 780

Phe Pro Gly Met Met Leu Leu Cys Glu Gly Leu Arg His Pro Gln Cys
785 790 795 800

Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Gln Leu Glu Ser Gly Ala
805 810 815

Cys Gln Glu Met Ala Ser Val Leu Gly Thr Asn Pro His Leu Val Glu
820 825 830

Leu Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu Gly Leu Arg Leu Leu
835 840 845

Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu Arg Thr Leu Trp Trp
850 855 860

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Gly Ile Ala Glu Asp Leu Ser Gln Asp Lys Ile Pro Trp Gly Arg Met
 35 40 45

Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Met Val Ala His Met
 50 55 60

Gly Thr Arg Glu Ala Trp Leu Leu Ala Leu Ser Thr Phe Gln Arg Ile
 65 70 75 80

His Arg Lys Asp Leu Trp Glu Arg Gly Gln Gly Glu Asp Leu Val Arg
 85 90 95

Gly Lys Glu Gly Lys Gly Asp Leu Gln Thr Thr Tyr Lys Asp Tyr Val
 100 105 110

Arg Arg Lys Phe Gln Leu Met Glu Asp Arg Asn Ala Arg Leu Gly Glu
 115 120 125

Cys Val Asn Leu Ser Asn Arg Tyr Thr Arg Leu Leu Leu Val Lys Glu
 130 135 140

His Ser Asn Pro Ile Trp Thr Gln Gln Lys Phe Val Asp Val Glu Trp
 145 150 155 160

Glu Arg Ser Arg Thr Arg Arg His Gln Thr Ser Pro Ile Gln Met Glu
 165 170 175

Thr Leu Phe Glu Pro Asp Glu Glu Arg Pro Glu Pro Pro His Thr Val
 180 185 190

Val Leu Gln Gly Ala Ala Gly Met Gly Lys Ser Met Leu Ala His Lys
 195 200 205

Val Met Leu Asp Trp Ala Asp Gly Arg Leu Phe Gln Gly Arg Phe Asp
 210 215 220

Tyr Val Phe Tyr Ile Ser Cys Arg Glu Leu Asn Arg Ser His Thr Gln
 225 230 235 240

Cys Ser Val Gln Asp Leu Ile Ser Ser Cys Trp Pro Glu Arg Gly Ile
 245 250 255

Ser Leu Glu Asp Leu Met Gln Ala Pro Asp Arg Leu Leu Phe Ile Ile
 260 265 270

Asp Gly Phe Asp Lys Leu His Pro Ser Phe His Asp Ala Gln Gly Pro
 275 280 285

Trp Cys Leu Cys Trp Glu Glu Lys Gln Pro Thr Glu Val Leu Leu Gly
 290 295 300

Ser Leu Ile Arg Arg Leu Leu Leu Pro Gln Val Ser Leu Leu Ile Thr
 305 310 315 320

Thr Arg Pro Cys Ala Leu Glu Lys Leu His Gly Leu Leu Glu His Pro
 325 330 335

Arg His Val Glu Ile Leu Gly Phe Ser Glu Glu Ala Arg Lys Glu Tyr
 340 345 350

Phe Tyr Arg Tyr Phe His Asn Thr Gly Gln Ala Ser Arg Val Leu Ser
 355 360 365

Phe Leu Met Asp Tyr Glu Pro Leu Phe Thr Met Cys Phe Val Pro Met
 370 375 380

Val Ser Trp Val Val Cys Thr Cys Leu Lys Gln Gln Leu Glu Ser Gly
 385 390 395 400

Glu Leu Leu Arg Gln Thr Pro Arg Thr Thr Thr Ala Val Tyr Met Phe
 405 410 415

Tyr Leu Leu Ser Leu Met Gln Pro Lys Pro Gly Thr Pro Thr Phe Lys
 420 425 430

Val Pro Ala Asn Gln Arg Gly Leu Val Ser Leu Ala Ala Glu Gly Leu
 435 440 445

Trp Asn Gln Lys Ile Leu Phe Asp Glu Gln Asp Leu Gly Lys His Gly

450		455		460
Leu Asp Gly Ala Asp Val Ser Thr Phe Leu Asn Val Asn Ile Phe Gln				
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Lys Gly Ile Lys Cys Glu Lys Phe Tyr Ser Phe Ile His Leu Ser Phe				
	485		490	495
Gln Glu Phe Phe Ala Ala Met Tyr Cys Ala Leu Asn Gly Arg Glu Ala				
	500		505	510
Val Arg Arg Ala Leu Ala Glu Tyr Gly Phe Ser Glu Arg Asn Phe Leu				
	515		520	525
Ala Leu Thr Val His Phe Leu Phe Gly Leu Leu Asn Glu Glu Met Arg				
	530		535	540
Cys Tyr Leu Glu Arg Asn Leu Gly Trp Ser Ile Ser Pro Gln Val Lys				
	545		550	555 560
Glu Glu Val Leu Ala Trp Ile Gln Asn Lys Ala Gly Ser Glu Gly Ser				
	565		570	575
Thr Leu Gln His Gly Ser Leu Glu Leu Leu Ser Cys Leu Tyr Glu Val				
	580		585	590
Gln Glu Glu Asp Phe Ile Gln Gln Ala Leu Ser His Phe Gln Val Val				
	595		600	605
Val Val Arg Ser Ile Ser Thr Lys Met Glu His Met Val Cys Ser Phe				
	610		615	620
Cys Ala Arg Tyr Cys Arg Ser Thr Glu Val Leu His Leu His Gly Ser				
	625		630	635 640
Ala Tyr Ser Thr Gly Met Glu Asp Asp Pro Pro Glu Pro Ser Gly Val				
	645		650	655
Gln Thr Gln Ser Thr Tyr Leu Gln Glu Arg Asn Met Leu Pro Asp Val				
	660		665	670
Tyr Ser Ala Tyr Leu Ser Ala Ala Val Cys Thr Asn Ser Asn Leu Ile				
	675		680	685
Glu Leu Ala Leu Tyr Arg Asn Ala Leu Gly Ser Gln Gly Val Arg Leu				
	690		695	700

Leu Cys Gln Gly Leu Arg His Ala Ser Cys Lys Leu Gln Asn Leu Arg
705 710 715 720

Leu Lys Arg Cys Gln Ile Ser Gly Ser Ala Cys Gln Asp Leu Ala Ala
725 730 735

Ala Val Ile Ala Asn Arg Asn Leu Ile Arg Leu Asp Leu Ser Asp Asn
740 745 750

Ser Ile Gly Val Pro Gly Leu Glu Leu Leu Cys Glu Gly Leu Gln His
755 760 765

Pro Arg Cys Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Leu Leu Glu
770 775 780

Ala Ala Ala Gly Arg Ser Leu Ala Ser Val Leu Ser Asn Asn Ser Tyr
785 790 795 800

Leu Val Glu Leu Asp Leu Thr Gly Asn Pro Leu Glu Asp Ser Gly Leu
805 810 815

Lys Leu Leu Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu Arg Thr
820 825 830

Leu Trp Leu Lys Ile Cys His Leu Gly Gln Ala Ser Cys Glu Asp Leu
835 840 845

Ala Ser Thr Leu Lys Met Asn Gln Ser Leu Leu Glu Leu Asp Leu Gly
850 855 860

Leu Asn Asp Leu Gly Asp Ser Gly Val Leu Leu Leu Cys Glu Gly Leu
865 870 875 880

Ser His Pro Asp Cys Lys Leu Gln Thr Leu Arg Leu Gly Ile Cys Arg
885 890 895

Leu Gly Ser Val Ala Cys Val Gly Ile Ala Ser Val Leu Gln Val Asn
900 905 910

Thr Cys Leu Gln Glu Leu Asp Leu Ser Phe Asn Asp Leu Gly Asp Arg
915 920 925

Gly Leu Gln Leu Leu Gly Glu Gly Leu Arg His Gln Thr Cys Arg Leu
930 935 940

Gln Lys Leu Trp Leu Asp Asn Cys Gly Leu Thr Ser Lys Ala Cys Glu
 945 950 955 960

Asp Leu Ser Ser Ile Leu Gly Ile Ser Gln Thr Leu His Glu Leu Tyr
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Leu Thr Asn Asn Ala Leu Gly Asp Thr Gly Val Cys Leu Leu Cys Lys
 980 985 990

Arg Leu Arg His Pro Gly Cys Lys Leu Arg Val Leu Trp Leu Phe Gly
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Val Thr Lys Pro Tyr Leu Asp Ile Gly Cys
 1025 1030

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 gagcatggcc tgacaccctg gaatgaagtg aagaaggcca ggcgggagga cctggccaat 180
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<400> 12

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Phe Leu Lys Glu Thr Met Glu Pro Glu His Gly Leu Thr Pro Trp Asn
 35 40 45

Glu Val Lys Lys Ala Arg Arg Glu Asp Leu Ala Asn Leu Met Lys Lys
 50 55 60

Tyr Tyr Pro Gly Glu Lys Ala Trp Ser Val Ser Leu Lys Ile Phe Gly
 65 70 75 80

Lys Met Asn Leu Lys Asp Leu Cys Glu Arg Ala Lys Glu Glu Ile Asn
 85 90 95

Trp Ser Ala Gln Thr Ile Gly Pro Asp Asp Ala Lys Ala Gly Glu Thr
 100 105 110

Gln Glu Asp Gln Glu Ala Val Leu Gly Asp Gly Thr Glu Tyr Arg Asn
 115 120 125

Arg Ile Lys Glu Lys Phe Cys Ile Thr Trp Asp Lys Lys Ser Leu Ala
 130 135 140

Gly Lys Pro Glu Asp Phe His His Gly Ile Ala Glu Lys Asp Arg Lys
 145 150 155 160

Leu Leu Glu His Leu Phe Asp Val Asp Val Lys Thr Gly Ala Gln Pro
 165 170 175

Gln Ile Val Val Leu Gln Gly Ala Ala Gly Val Gly Lys Thr Thr Leu
180 185 190

Val Arg Lys Ala Met Leu Asp Trp Ala Glu Gly Ser Leu Tyr Gln Gln
195 200 205

Arg Phe Lys Tyr Val Phe Tyr Leu Asn Gly Arg Glu Ile Asn Gln Leu
210 215 220

Lys Glu Arg Ser Phe Ala Gln Leu Ile Ser Lys Asp Trp Pro Ser Thr
225 230 235 240

Glu Gly Pro Ile Glu Glu Ile Met Tyr Gln Pro Ser Ser Leu Leu Phe
245 250 255

Ile Ile Asp Ser Phe Asp Glu Leu Asn Phe Ala Phe Glu Glu Pro Glu
260 265 270

Phe Ala Leu Cys Glu Asp Trp Thr Gln Glu His Pro Val Ser Phe Leu
275 280 285

Met Ser Ser Leu Leu Arg Lys Val Met Leu Pro Glu Ala Ser Leu Leu
290 295 300

Val Thr Thr Arg Leu Thr Thr Ser Lys Arg Leu Lys Gln Leu Leu Lys
305 310 315 320

Asn His His Tyr Val Glu Leu Leu Gly Met Ser Glu Asp Ala Arg Glu
325 330 335

Glu Tyr Ile Tyr Gln Phe Phe Glu Asp Lys Arg Trp Ala Met Lys Val
340 345 350

Phe Ser Ser Leu Lys Ser Asn Glu Met Leu Phe Ser Met Cys Gln Val
355 360 365

Pro Leu Val Cys Trp Ala Ala Cys Thr Cys Leu Lys Gln Gln Met Glu
370 375 380

Lys Gly Gly Asp Val Thr Leu Thr Cys Gln Thr Thr Thr Ala Leu Phe
385 390 395 400

Thr Cys Tyr Ile Ser Ser Leu Phe Thr Pro Val Asp Gly Gly Ser Pro
405 410 415

Ser Leu Pro Asn Gln Ala Gln Leu Arg Arg Leu Cys Gln Val Ala Ala
420 425 430

Lys Gly Ile Trp Thr Met Thr Tyr Val Phe Tyr Arg Glu Asn Leu Arg
435 440 445

Arg Leu Gly Leu Thr Gln Ser Asp Val Ser Ser Phe Met Asp Ser Asn
450 455 460

Ile Ile Gln Lys Asp Ala Glu Tyr Glu Asn Cys Tyr Val Phe Thr His
465 470 475 480

Leu His Val Gln Glu Phe Phe Ala Ala Met Phe Tyr Met Leu Lys Gly
485 490 495

Ser Trp Glu Ala Gly Asn Pro Ser Cys Gln Pro Phe Glu Asp Leu Lys
500 505 510

Ser Leu Leu Gln Ser Thr Ser Tyr Lys Asp Pro His Leu Thr Gln Met
515 520 525

Lys Cys Phe Leu Phe Gly Leu Leu Asn Glu Asp Arg Val Lys Gln Leu
530 535 540

Glu Arg Thr Phe Asn Cys Lys Met Ser Leu Lys Ile Lys Ser Lys Leu
545 550 555 560

Leu Gln Cys Met Glu Val Leu Gly Asn Ser Asp Tyr Ser Pro Ser Gln
565 570 575

Leu Gly Phe Leu Glu Leu Phe His Cys Leu Tyr Glu Thr Gln Asp Lys
580 585 590

Ala Phe Ile Ser Gln Ala Met Arg Cys Phe Pro Lys Val Ala Ile Asn
595 600 605

Ile Cys Glu Lys Ile His Leu Leu Val Ser Ser Phe Cys Leu Lys His
610 615 620

Cys Arg Cys Leu Arg Thr Ile Arg Leu Ser Val Thr Val Val Phe Glu
625 630 635 640

Lys Lys Ile Leu Lys Thr Ser Leu Pro Thr Asn Thr Trp Leu Lys Phe
645 650 655

Ile Thr Phe Pro Asp Gly Cys Gln Asp Ile Ser Thr Ser Leu Ile His
 660 665 670

Asn Lys Asn Leu Met His Leu Asp Leu Lys Gly Ser Asp Ile Gly Asp
 675 680 685

Asn Gly Val Lys Ser Leu Cys Glu Ala Leu Lys His Pro Glu Cys Lys
 690 695 700

Leu Gln Thr Leu Arg Leu Glu Ser Cys Asn Leu Thr Val Phe Cys Cys
 705 710 715 720

Leu Asn Ile Ser Asn Ala Leu Ile Arg Ser Gln Ser Leu Ile Phe Leu
 725 730 735

Asn Leu Ser Thr Asn Asn Leu Leu Asp Asp Gly Val Gln Leu Leu Cys
 740 745 750

Glu Ala Leu Arg His Pro Lys Cys Tyr Leu Glu Arg Leu Ser Leu Glu
 755 760 765

Ser Cys Gly Leu Thr Glu Ala Gly Cys Glu Tyr Leu Ser Leu Ala Leu
 770 775 780

Ile Ser Asn Lys Arg Leu Thr His Leu Cys Leu Ala Asp Asn Val Leu
 785 790 795 800

Gly Asp Gly Gly Val Lys Leu Met Ser Asp Ala Leu Gln His Ala Gln
 805 810 815

Cys Thr Leu Lys Ser Leu Val Leu Arg Arg Cys His Phe Thr Ser Leu
 820 825 830

Ser Ser Glu Tyr Leu Ser Thr Ser Leu Leu His Asn Lys Ser Leu Thr
 835 840 845

His Leu Asp Leu Gly Ser Asn Trp Leu Gln Asp Asn Gly Val Lys Leu
 850 855 860

Leu Cys Asp Val Phe Arg His Pro Ser Cys Asn Leu Gln Asp Leu Glu
 865 870 875 880

Leu Met Gly Cys Val Leu Thr Asn Ala Cys Cys Leu Asp Leu Ala Ser
 885 890 895

Val Ile Leu Asn Asn Pro Asn Leu Arg Ser Leu Asp Leu Gly Asn Asn

900

905

910

Asp Leu Gln Asp Asp Gly Val Lys Ile Leu Cys Asp Ala Leu Arg Tyr
 915 920 925

Pro Asn Cys Asn Ile Gln Arg Leu Gly Leu Glu Tyr Cys Gly Leu Thr
 930 935 940

Ser Leu Cys Cys Gln Asp Leu Ser Ser Ala Leu Ile Cys Asn Lys Arg
 945 950 955 960

Leu Ile Lys Met Asn Leu Thr Gln Asn Thr Leu Gly Tyr Glu Gly Ile
 965 970 975

Val Lys Leu Tyr Lys Val Leu Lys Ser Pro Lys Cys Lys Leu Gln Val
 980 985 990

Leu Gly Gln Gln Asp Phe Gln Ala Ala Gln Gly Lys Leu Gln Gln Arg
 995 1000 1005

Ala Gly Ser Gly
 1010

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 <212> DNA
 <213> Homo sapiens

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Phe Leu Lys Glu Thr Met Glu Pro Glu His Gly Leu Thr Pro Trp Asn
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Glu Val Lys Lys Ala Arg Arg Glu Asp Leu Ala Asn Leu Met Lys Lys
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Tyr Tyr Pro Gly Glu Lys Ala Trp Ser Val Ser Leu Lys Ile Phe Gly
 65 70 75 80

Lys Met Asn Leu Lys Asp Leu Cys Glu Arg Ala Lys Glu Glu Ile Asn
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Trp Ser Ala Gln Thr Ile Gly Pro Asp Asp Ala Lys Ala Gly Glu Thr
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Gln Glu Asp Gln Glu Ala Val Leu Gly Asp Gly Thr Glu Tyr Arg Asn
 115 120 125

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Gly Lys Pro Glu Asp Phe His His Gly Ile Ala Glu Lys Asp Arg Lys
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Gln Ile Val Val Leu Gln Gly Ala Ala Gly Val Gly Lys Thr Thr Leu
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Val Arg Lys Ala Met Leu Asp Trp Ala Glu Gly Ser Leu Tyr Gln Gln
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Arg Phe Lys Tyr Val Phe Tyr Leu Asn Gly Arg Glu Ile Asn Gln Leu
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Lys Glu Arg Ser Phe Ala Gln Leu Ile Ser Lys Asp Trp Pro Asn Thr
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Lys Ala Pro Ile Glu Glu Ile Met Tyr Gln Pro Ser Ser Leu Leu Phe
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Ile Ile Asp Ser Phe Asp Glu Leu Asn Phe Ala Phe Glu Glu Pro Glu
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Phe Ala Leu Cys Glu Asp Trp Thr Gln Asp Asn Pro Val Ser Phe Leu
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Ser Leu Pro Asn Gln Ala Gln Leu Arg Arg Leu Cys Gln Val Ala Ala

420

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Glu His Leu Arg Glu Leu Asp Leu Tyr His Ser Asn Leu Asp Lys Ser
675 680 685

Ala Met Asn Ile Leu His His Glu Leu Ser His Pro Asn Cys Lys Leu
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Gln Lys Leu Leu Leu Lys Phe Ile Thr Phe Pro Asp Gly Cys Gln Asp
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Ile Ser Thr Ser Leu Ile His Asn Lys Asn Leu Met His Leu Asp Leu
725 730 735

Lys Gly Ser Asp Ile Gly Asp Asn Gly Val Lys Ser Leu Cys Glu Ala
740 745 750

Leu Lys His Pro Glu Cys Lys Leu Gln Thr Leu Ser Leu Glu Ser Cys
755 760 765

Gly Leu Thr Glu Ala Gly Cys Glu Tyr Leu Ser Leu Ala Leu Ile Ser
770 775 780

Asn Lys Arg Leu Thr His Leu Cys Leu Ala Asp Asn Val Leu Gly Asp
785 790 795 800

Gly Gly Val Lys Leu Met Ser Asp Ala Leu Gln His Ala Gln Cys Thr
805 810 815

Leu Lys Ser Leu Val Leu Arg Arg Cys His Phe Thr Ser Leu Ser Ser
820 825 830

Glu Tyr Leu Ser Thr Ser Leu Leu His Asn Lys Ser Leu Thr His Leu
835 840 845

Asp Leu Gly Ser Asn Trp Leu Gln Asp Asn Gly Val Lys Leu Leu Cys
850 855 860

Asp Val Phe Arg His Pro Ser Cys Asn Leu Gln Asp Leu Glu Leu Met
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Gly Cys Val Leu Thr Asn Ala Cys Cys Leu Asp Leu Ala Ser Val Ile
885 890 895

Leu Asn Asn Pro Asn Leu Arg Ser Leu Asp Leu Gly Asn Asn Asp Leu
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Pro Pro Ala Glu Leu Ala Leu Glu His Gln Pro Pro Gln Ala Gly Leu
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Pro Pro Leu Ala Leu Ser Gln Leu Phe Asn Pro Asp Ala Cys Gly Arg
 65 70 75 80

Arg Val Gln Thr Val Val Leu Tyr Gly Thr Val Gly Thr Gly Lys Ser
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Thr Leu Val Arg Lys Met Val Leu Asp Trp Cys Tyr Gly Arg Leu Pro
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Ala Phe Glu Leu Leu Ile Pro Phe Ser Cys Glu Asp Leu Ser Ser Leu
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Gly Pro Ala Pro Ala Ser Leu Cys Gln Leu Val Ala Gln Arg Tyr Thr
 130 135 140

Pro Leu Lys Glu Val Leu Pro Leu Met Ala Ala Ala Gly Ser His Leu
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Leu Phe Val Leu His Gly Leu Glu His Leu Asn Leu Asp Phe Arg Leu
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Ala Gly Thr Gly Leu Cys Ser Asp Pro Glu Glu Pro Gln Glu Pro Ala
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 195 200 205

Ile Leu Val Thr Thr Arg Pro Ser Ala Ile Gly Arg Ile Pro Ser Lys
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Gln Lys Leu Tyr Phe Gln Leu Arg Leu Asn Gln Pro Tyr Cys Gly Tyr
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Leu Val Gln Met Leu Ser Arg Asn Leu Glu Gly His His Gln Ile Ala
 275 280 285

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His Phe Leu His Ala Pro Thr Pro Ala Gly Gln Thr Leu Thr Ser Ile
 305 310 315 320

Tyr Thr Ser Phe Leu Arg Leu Asn Phe Ser Gly Glu Thr Leu Asp Ser
 325 330 335

Thr Asp Pro Ser Asn Leu Ser Leu Met Ala Tyr Ala Ala Arg Thr Met
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Gly Lys Leu Ala Tyr Glu Gly Val Ser Ser Arg Lys Thr Tyr Phe Ser
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Val Pro Ala Met Gln Glu Tyr Leu Ala Ala Leu Tyr Ile Val Leu Gly
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540

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Ser Cys Gln Leu Asp Pro Ala Gly Leu Arg Thr Leu Leu Pro Val Phe
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Leu Leu Ala Ala Gln Leu Asp Arg Asn Arg Gln Leu Gln Glu Leu Asn
 725 730 735

Val Ala Tyr Asn Gly Ala Gly Asp Thr Ala Ala Leu Ala Leu Ala Arg
 740 745 750

Ala Ala Arg Glu His Pro Ser Leu Glu Leu Leu Gln Ala Leu Leu Asn
 755 760 765

Gly Ile Asp Phe Leu Ser Pro Ala Ser Leu Tyr Phe Asn Glu Leu Ser
 770 775 780

Ser Glu Gly Arg Gln Val Leu Arg Asp Leu Gly Gly Ala Ala Glu Gly
785 790 795 800

Gly Ala Arg Val Val Val Ser Leu Thr Glu Gly Thr Ala Val Ser Glu
805 810 815

Tyr Trp Ser Val Ile Leu Ser Glu Val Gln Arg Asn Leu Asn Ser Trp
820 825 830

Asp Arg Ala Arg Val Gln Arg His Leu Glu Leu Leu Leu Arg Asp Leu
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Glu Asp Ser Arg Gly Ala Thr Leu Asn Pro Trp Arg Lys Ala Gln Leu
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<400> 18

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Trp Ser Trp Pro Leu Gln Gly Glu Arg Pro Phe Gly Pro Pro Arg Ala
35 40 45

Phe Ile Arg His His Gly Ser Ser Val Asp Ser Ala Pro Pro Ser Gly
50 55 60

Arg His Gly Arg Leu Phe Pro Ser Ala Ser Ala Thr Glu Ala Ile Gln
65 70 75 80

Arg His Arg Arg Asn Leu Ala Glu Trp Phe Ser Arg Leu Pro Arg Glu
85 90 95

Glu Arg Gln Phe Gly Pro Thr Phe Ala Leu Asp Thr Val His Val Asp
100 105 110

Pro Val Ile Arg Glu Ser Thr Pro Asp Glu Leu Leu Arg Pro Pro Ala
115 120 125

Glu Leu Ala Leu Glu His Gln Pro Pro Gln Ala Gly Leu Pro Pro Leu
130 135 140

Ala Leu Ser Gln Leu Phe Asn Pro Asp Ala Cys Gly Arg Arg Val Gln
145 150 155 160

Thr Val Val Leu Tyr Gly Thr Val Gly Thr Gly Lys Ser Thr Leu Val

Ser Asn Leu Ser Leu Met Ala Tyr Ala Ala Arg Thr Met Gly Lys Leu
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Ala Tyr Glu Gly Val Ser Ser Arg Lys Thr Tyr Phe Ser Glu Glu Asp
435 440 445

Val Cys Gly Cys Leu Glu Ala Gly Ile Arg Thr Glu Glu Glu Phe Gln
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Leu Leu His Ile Phe Arg Arg Asp Ala Leu Arg Phe Phe Leu Ala Pro
465 470 475 480

Cys Val Glu Pro Gly Arg Ala Gly Thr Phe Val Phe Thr Val Pro Ala
485 490 495

Met Gln Glu Tyr Leu Ala Ala Leu Tyr Ile Val Leu Gly Leu Arg Lys
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Thr Thr Leu Gln Lys Val Gly Lys Glu Val Ala Glu Leu Val Gly Arg
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Val Gly Glu Asp Val Ser Leu Val Leu Gly Ile Met Ala Lys Leu Leu
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Pro Leu Arg Ala Leu Pro Leu Leu Phe Asn Leu Ile Lys Val Val Pro
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Arg Val Phe Gly Arg Met Val Gly Lys Ser Arg Glu Ala Val Thr Gln
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Ala Met Val Leu Glu Met Phe Arg Glu Glu Asp Tyr Tyr Asn Asp Asp
580 585 590

Val Leu Asp Gln Met Gly Ala Ser Ile Leu Gly Val Glu Gly Pro Arg
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Arg His Pro Asp Glu Pro Pro Glu Asp Glu Val Phe Glu Leu Phe Pro
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Met Phe Met Gly Gly Leu Leu Ser Ala His Asn Arg Ala Val Leu Ala
625 630 635 640

Gln Leu Gly Cys Pro Ile Lys Asn Leu Asp Ala Leu Glu Asn Ala Gln
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Ala Ile Lys Lys Lys Leu Gly Lys Leu Gly Arg Gln Val Leu Pro Pro
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Ser Glu Leu Leu Asp His Leu Phe Phe His Tyr Glu Phe Gln Asn Gln
675 680 685

Arg Phe Ser Ala Glu Val Leu Ser Ser Leu Arg Gln Leu Asn Leu Ala
690 695 700

Gly Val Arg Met Thr Pro Val Lys Cys Thr Val Val Ala Ala Val Leu
705 710 715 720

Gly Ser Gly Arg His Ala Leu Asp Glu Val Asn Leu Ala Ser Cys Gln
725 730 735

Leu Asp Pro Ala Gly Leu Arg Thr Leu Leu Pro Val Phe Leu Arg Ala
740 745 750

Arg Lys Leu Gly Leu Gln Leu Asn Ser Leu Gly Pro Glu Ala Cys Lys
755 760 765

Asp Leu Arg Asp Leu Leu Leu His Asp Gln Cys Gln Ile Thr Thr Leu
770 775 780

Arg Leu Ser Asn Asn Pro Leu Thr Glu Ala Gly Val Ala Val Leu Met
785 790 795 800

Glu Gly Leu Ala Gly Asn Thr Ser Val Thr His Leu Ser Leu Leu His
805 810 815

Thr Gly Leu Gly Asp Glu Gly Leu Glu Leu Leu Ala Ala Gln Leu Asp
820 825 830

Arg Asn Arg Gln Leu Gln Glu Leu Asn Val Ala Tyr Asn Gly Ala Gly
835 840 845

Asp Thr Ala Ala Leu Ala Leu Ala Arg Ala Ala Arg Glu His Pro Ser
850 855 860

Leu Glu Leu Leu His Leu Tyr Phe Asn Glu Leu Ser Ser Glu Gly Arg
865 870 875 880

Gln Val Leu Arg Asp Leu Gly Gly Ala Ala Glu Gly Gly Ala Arg Val
885 890 895

Val Val Ser Leu Thr Glu Gly Thr Ala Val Ser Glu Tyr Trp Ser Val
 900 905 910

Ile Leu Ser Glu Val Gln Arg Asn Leu Asn Ser Trp Asp Arg Ala Arg
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Gly Ala Thr Leu Asn Pro
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<400> 20

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Trp Ser Trp Pro Leu Gln Gly Glu Arg Pro Phe Gly Pro Pro Arg Ala
35 40 45

Phe Ile Arg His His Gly Ser Ser Val Asp Ser Ala Pro Pro Ser Gly
50 55 60

Arg His Gly Arg Leu Phe Pro Ser Ala Ser Ala Thr Glu Ala Ile Gln
65 70 75 80

Arg His Arg Arg Asn Leu Ala Glu Trp Phe Ser Arg Leu Pro Arg Glu
85 90 95

Glu Arg Gln Phe Gly Pro Thr Phe Ala Leu Asp Thr Val His Val Asp
100 105 110

Pro Val Ile Arg Glu Ser Thr Pro Asp Glu Leu Leu Arg Pro Pro Ala
115 120 125

Glu Leu Ala Leu Glu His Gln Pro Pro Gln Ala Gly Leu Pro Pro Leu
130 135 140

Ala Leu Ser Gln Leu Phe Asn Pro Asp Ala Cys Gly Arg Arg Val Gln
145 150 155 160

Thr Val Val Leu Tyr Gly Thr Val Gly Thr Gly Lys Ser Thr Leu Val
165 170 175

Arg Lys Met Val Leu Asp Trp Cys Tyr Gly Arg Leu Pro Ala Phe Glu
180 185 190

Leu Leu Ile Pro Phe Ser Cys Glu Asp Leu Ser Ser Leu Gly Pro Ala
195 200 205

Pro Ala Ser Leu Cys Gln Leu Val Ala Gln Arg Tyr Thr Pro Leu Lys
210 215 220

Glu Val Leu Pro Leu Met Ala Ala Ala Gly Ser His Leu Leu Phe Val
225 230 235 240

Leu His Gly Leu Glu His Leu Asn Leu Asp Phe Arg Leu Ala Gly Thr
 245 250 255

Gly Leu Cys Ser Asp Pro Glu Glu Pro Gln Glu Pro Ala Ala Ile Ile
 260 265 270

Val Asn Leu Leu Arg Lys Tyr Met Leu Pro Gln Ala Ser Ile Leu Val
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Thr Thr Arg Pro Ser Ala Ile Gly Arg Ile Pro Ser Lys Tyr Val Gly
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Arg Tyr Gly Glu Ile Cys Gly Phe Ser Asp Thr Asn Leu Gln Lys Leu
 305 310 315 320

Tyr Phe Gln Leu Arg Leu Asn Gln Pro Tyr Cys Gly Tyr Ala Val Gly
 325 330 335

Gly Ser Gly Val Ser Ala Thr Pro Ala Gln Arg Asp His Leu Val Gln
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Met Leu Ser Arg Asn Leu Glu Gly His His Gln Ile Ala Ala Ala Cys
 355 360 365

Phe Leu Pro Ser Tyr Cys Trp Leu Val Cys Ala Thr Leu His Phe Leu
 370 375 380

His Ala Pro Thr Pro Ala Gly Gln Thr Leu Thr Ser Ile Tyr Thr Ser
 385 390 395 400

Phe Leu Arg Leu Asn Phe Ser Gly Glu Thr Leu Asp Ser Thr Asp Pro
 405 410 415

Ser Asn Leu Ser Leu Met Ala Tyr Ala Ala Arg Thr Met Gly Lys Leu
 420 425 430

Ala Tyr Glu Gly Val Ser Ser Arg Lys Thr Tyr Phe Ser Glu Glu Asp
 435 440 445

Val Cys Gly Cys Leu Glu Ala Gly Ile Arg Thr Glu Glu Glu Phe Gln
 450 455 460

Leu Leu His Ile Phe Arg Arg Asp Ala Leu Arg Phe Phe Leu Ala Pro
 465 470 475 480

Cys Val Glu Pro Gly Arg Ala Gly Thr Phe Val Phe Thr Val Pro Ala
 485 490 495

Met Gln Glu Tyr Leu Ala Ala Leu Tyr Ile Val Leu Gly Leu Arg Lys
 500 505 510

Thr Thr Leu Gln Lys Val Gly Lys Glu Val Ala Glu Leu Val Gly Arg
 515 520 525

Val Gly Glu Asp Val Ser Leu Val Leu Gly Ile Met Ala Lys Leu Leu
 530 535 540

Pro Leu Arg Ala Leu Pro Leu Leu Phe Asn Leu Ile Lys Val Val Pro
 545 550 555 560

Arg Val Phe Gly Arg Met Val Gly Lys Ser Arg Glu Ala Val Thr Gln
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Ala Met Val Leu Glu Met Phe Arg Glu Glu Asp Tyr Tyr Asn Asp Asp
 580 585 590

Val Leu Asp Gln Met Gly Ala Ser Ile Leu Gly Val Glu Gly Pro Arg
 595 600 605

Arg His Pro Asp Glu Pro Pro Glu Asp Glu Val Phe Glu Leu Phe Pro
 610 615 620

Met Phe Met Gly Gly Leu Leu Ser Ala His Asn Arg Ala Val Leu Ala
 625 630 635 640

Gln Leu Gly Cys Pro Ile Lys Asn Leu Asp Ala Leu Glu Asn Ala Gln
 645 650 655

Ala Ile Lys Lys Lys Leu Gly Lys Leu Gly Arg Gln Val Leu Pro Pro
 660 665 670

Ser Glu Leu Leu Asp His Leu Phe Phe His Tyr Glu Phe Gln Asn Gln
 675 680 685

Arg Phe Ser Ala Glu Val Leu Ser Ser Leu Arg Gln Leu Asn Leu Ala
 690 695 700

Gly Val Arg Met Thr Pro Val Lys Cys Thr Val Val Ala Ala Val Leu
 705 710 715 720

Gly Ser Gly Arg His Ala Leu Asp Glu Val Asn Leu Ala Ser Cys Gln

725

730

735

Leu Asp Pro Ala Gly Leu Arg Thr Leu Leu Pro Val Phe Leu Arg Ala
 740 745 750

Arg Lys Leu Gly Leu Gln Leu Asn Ser Leu Gly Pro Glu Ala Cys Lys
 755 760 765

Asp Leu Arg Asp Leu Leu Leu His Asp Gln Cys Gln Ile Thr Thr Leu
 770 775 780

Arg Leu Ser Asn Asn Pro Leu Thr Glu Ala Gly Val Ala Val Leu Met
 785 790 795 800

Glu Gly Leu Ala Gly Asn Thr Ser Val Thr His Leu Ser Leu Leu His
 805 810 815

Thr Gly Leu Gly Asp Glu Gly Leu Glu Leu Leu Ala Ala Gln Leu Asp
 820 825 830

Arg Asn Arg Gln Leu Gln Glu Leu Asn Val Ala Tyr Asn Gly Ala Gly
 835 840 845

Asp Thr Ala Ala Leu Ala Leu Ala Arg Ala Ala Arg Glu His Pro Ser
 850 855 860

Leu Glu Leu Leu Gln Gly Val Ala Ile Gln Met Cys Trp Lys Leu Pro
 865 870 875 880

Leu Leu Pro Tyr Ala His Leu Trp Thr Pro Arg Met Pro Ser His Trp
 885 890 895

Cys Phe Leu Leu Ile Leu Met Pro Pro Leu Pro Gln Trp Tyr Asp Gly
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Cys Ala Phe Tyr
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 <212> DNA
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<400> 21

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 <212> PRT
 <213> Homo sapiens

<400> 22

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Pro Pro Ala Gln Leu Pro Ala Leu Ser Ser Pro Val Pro Gln Phe Ile
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Phe Leu Leu Ala Pro Leu Ser Pro Ser Ser Pro Val Pro Gln Leu Pro
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Cys Pro Pro Gly Trp Leu Leu Met Asp Pro Val Gly Leu Gln Leu Gly
65 70 75 80

Asn Lys Asn Leu Trp Ser Cys Leu Val Arg Leu Leu Thr Lys Asp Pro
85 90 95

Glu Trp Leu Asn Ala Lys Met Lys Phe Phe Leu Pro Asn Thr Asp Leu
100 105 110

Asp Ser Arg Asn Glu Thr Leu Asp Pro Glu Gln Arg Val Ile Leu Gln
115 120 125

Leu Asn Lys Leu His Val Gln Gly Ser Asp Thr Trp Gln Ser Phe Ile
130 135 140

His Cys Val Cys Met Gln Leu Glu Val Pro Leu Asp Leu Glu Val Leu
145 150 155 160

Leu Leu Ser Thr Phe Gly Tyr Asp Asp Gly Phe Thr Ser Gln Leu Gly
165 170 175

Ala Glu Gly Lys Ser Gln Pro Glu Ser Gln Leu His His Gly Leu Lys
180 185 190

Arg Pro His Gln Ser Cys Gly Ser Ser Pro Arg Arg Lys Gln Cys Lys
195 200 205

Lys Gln Gln Leu Glu Leu Ala Lys Lys Tyr Leu Gln Leu Leu Arg Thr
210 215 220

Ser Ala Gln Gln Arg Tyr Arg Ser Gln Ile Pro Gly Ser Gly Gln Pro
225 230 235 240

His Ala Phe His Gln Val Tyr Val Pro Pro Ile Leu Arg Arg Ala Thr
245 250 255

Ala Ser Leu Asp Thr Pro Glu Gly Ala Ile Met Gly Asp Val Lys Val
260 265 270

Glu Asp Gly Ala Asp Val Ser Ile Ser Asp Leu Phe Asn Thr Arg Val
275 280 285

Asn Lys Gly Pro Arg Val Thr Val Leu Leu Gly Lys Ala Gly Met Gly
290 295 300

Lys Thr Thr Leu Ala His Arg Leu Cys Gln Lys Trp Ala Glu Gly His
305 310 315 320

Leu Asn Cys Phe Gln Ala Leu Phe Leu Phe Glu Phe Arg Gln Leu Asn
325 330 335

Leu Ile Thr Arg Phe Leu Thr Pro Ser Glu Leu Leu Phe Asp Leu Tyr
340 345 350

Leu Ser Pro Glu Ser Asp His Asp Thr Val Phe Gln Tyr Leu Glu Lys
355 360 365

Asn Ala Asp Gln Val Leu Leu Ile Phe Asp Gly Leu Asp Glu Ala Leu
370 375 380

Gln Pro Met Gly Pro Asp Gly Pro Gly Pro Val Leu Thr Leu Phe Ser
385 390 395 400

His Leu Cys Asn Gly Thr Leu Leu Pro Gly Cys Arg Ala Ala Met Val
405 410 415

His Met Leu Gly Phe Asp Gly Pro Arg Val Glu Glu Tyr Val Asn His
420 425 430

Phe Phe Ser Ala Gln Pro Ser Arg Glu Gly Ala Leu Val Glu Leu Gln
435 440 445

Thr Asn Gly Arg Leu Arg Ser Leu Cys Ala Val Pro Ala Leu Cys Gln
450 455 460

Val Ala Cys Leu Cys Leu His His Leu Leu Pro Asp His Ala Pro Gly
465 470 475 480

Gln Ser Val Ala Leu Leu Pro Asn Met Thr Gln Leu Tyr Met Gln Met
 485 490 495

Val Leu Ala Leu Ser Pro Pro Gly His Leu Pro Thr Ser Ser Leu Leu
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Asp Leu Gly Glu Val Ala Leu Arg Gly Pro Gly Asp Arg Glu Gly Pro
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Gly His Gln Gln Thr Gly Tyr Ala Phe Thr His Leu Ser Leu Gln Glu
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Phe Leu Ala Ala Leu His Leu Met Ala Ser Pro Lys Val Asn Lys Asp
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Thr Leu Thr Gln Tyr Val Thr Leu His Ser Arg Trp Val Gln Arg Thr
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Lys Ala Arg Leu Gly Leu Ser Asp His Leu Pro Thr Phe Leu Ala Gly
 580 585 590

Leu Ala Ser Cys Thr Cys Arg Pro Phe Leu Ser His Leu Ala Gln Gly
 595 600 605

Asn Glu Asp Cys Val Gly Ala Lys Gln Ala Ala Val Val Gln Val Leu
 610 615 620

Lys Lys Leu Ala Thr Arg Lys Leu Thr Gly Pro Lys Val Val Glu Leu
 625 630 635 640

Cys His Cys Val Asp Glu Thr Gln Glu Pro Glu Leu Ala Ser Leu Thr
 645 650 655

Ala Gln Ser Leu Pro Tyr Gln Leu Pro Phe His Asn Phe Pro Leu Thr
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Cys Thr Asp Leu Ala Thr Leu Thr Asn Ile Leu Glu His Arg Glu Ala
 675 680 685

Pro Ile His Leu Asp Phe Asp Gly Cys Pro Leu Glu Pro His Cys Pro
 690 695 700

Glu Ala Leu Val Gly Cys Gly Gln Ile Glu Asn Leu Ser Phe Lys Ser
 705 710 715 720

Arg Lys Cys Gly Asp Ala Phe Ala Glu Ala Leu Ser Arg Ser Leu Pro

725

730

735

Thr Met Gly Arg Leu Gln Met Leu Gly Leu Ala Gly Ser Lys Ile Thr
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Ala Arg Gly Ile Ser His Leu Val Lys Ala Leu Pro Leu Cys Pro Gln
 755 760 765

Leu Lys Glu Val Ser Phe Arg Asp Asn Gln Leu Ser Asp Gln Val Val
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Leu Asn Ile Val Glu Val Leu Pro His Leu Pro Arg Leu Arg Lys Leu
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Asp Leu Ser Gly Asn Gln Leu Glu Asp Glu Gly Cys Arg Leu Met Ala
 805 810 815

Glu Ala Ala Ser Gln Leu His Ile Ala Arg Lys Leu Asp Leu Ser Asn
 820 825 830

Asn Gly Leu Ser Val Ala Gly Val His Cys Val Leu Arg Ala Val Ser
 835 840 845

Ala Cys Trp Thr Leu Ala Glu Leu His Ile Arg Leu Thr His Cys Gly
 850 855 860

Leu Gln Glu Lys His Leu Glu Gln Leu Cys Lys Ala Leu Gly Gly Ser
 865 870 875 880

Cys His Leu Gly His Leu His Leu Asp Phe Ser Gly Asn Ala Leu Gly
 885 890 895

Asp Glu Gly Ala Ala Arg Leu Ala Gln Leu Leu Pro Gly Leu Gly Ala
 900 905 910

Leu Gln Ser Leu Asn Leu Ser Glu Asn Gly Leu Ser Leu Asp Ala Val
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Leu Gly Leu Val Arg Cys Phe Ser Thr Leu Gln Trp Leu Phe Arg Leu
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Asp Ile Ser Leu Ser Glu Cys Pro Leu Glu Pro Pro Ser Leu Thr Arg
 945 950 955 960

Leu Cys Ala Thr Leu Lys Asp Cys Pro Gly Pro Leu Glu Leu Gln Leu
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Ser Cys Glu Phe Leu Ser Asp Gln Ser Leu Glu Thr Leu Leu Asp Cys
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Leu Pro Gln Leu Pro Gln Leu Ser Leu Leu Gln Leu Ser Gln Thr Gly
 995 1000 1005

Leu Ser Pro Lys Ser Pro Phe Leu Leu Ala Asn Thr Leu Ser Leu
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Cys Pro Arg Val Lys Lys Val Asp Leu Arg Phe Thr Gly Cys Ser
 1025 1030 1035

Leu Ser Gln Glu His Val Glu Ser Leu Cys Trp Leu Leu Ser Lys
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Cys Lys Asp Leu Ser Gln Val Asp Leu Ser Ala Asn Leu Leu Gly
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Asp Ser Gly Leu Arg Cys Leu Leu Glu Cys Leu Pro Gln Val Pro
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Ile Ser Gly Leu Leu Glu Ser Leu Val Thr Ala Cys Gly Thr Val
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Ser Pro Ile Ala Pro Gly Asn Pro Gln Trp Pro Pro Lys Cys Ala
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Ile Arg Val Arg Trp Gly Thr Pro Cys Cys Gly Leu Ser Phe Arg
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<400> 24

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Cys Leu Pro Ala Glu Ala Ala Met Val His Met Leu Gly Phe Asp Gly
 35 40 45

Pro Arg Val Glu Glu Tyr Val Asn His Phe Phe Ser Ala Gln Pro Ser
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Arg Glu Gly Ala Leu Val Glu Leu Gln Thr Asn Gly Arg Leu Arg Ser
 65 70 75 80

Leu Cys Ala Val Pro Ala Leu Cys Gln Val Ala Cys Leu Cys Leu His
 85 90 95

His Leu Leu Pro Asp His Ala Pro Gly Gln Ser Val Ala Leu Leu Pro
 100 105 110

Asn Met Thr Gln Leu Tyr Met Gln Met Val Leu Ala Leu Ser Pro Pro
 115 120 125

Gly His Leu Leu Thr Ser Ser Leu Leu Asp Leu Gly Glu Val Ala Leu
 130 135 140

Arg Gly Leu Glu Thr Gly Lys Val Ile Phe Tyr Ala Lys Asp Ile Ala
 145 150 155 160

Pro Pro Leu Ile Ala Phe Gly Ala Thr His Ser Leu Leu Thr Ser Phe
 165 170 175

Arg Val Cys Thr Gly Pro Gly His Gln Gln Thr Gly Tyr Ala Phe Thr
 180 185 190

His Leu Ser Leu Gln Glu Phe Leu Ala Ala Leu His Leu Met Ala Ser
 195 200 205

Pro Lys Val Asn Lys Asp Thr Leu Thr Gln Tyr Val Thr Leu His Ser
 210 215 220

Arg Trp Val Gln Arg Thr Lys Ala Arg Leu Gly Leu Ser Asp His Leu
 225 230 235 240

Pro Thr Phe Leu Ala Gly Leu Ala Ser Cys Thr Cys Arg Pro Phe Leu
 245 250 255

Ser His Leu Ala Gln Gly Asn Glu Asp Cys Val Gly Ala Lys Gln Ala
 260 265 270

Ala Val Val Gln Val Leu Lys Lys Leu Ala Thr Arg Lys Leu Thr Gly
 275 280 285

Pro Lys Val Val Glu Leu Cys His Cys Val Asp Glu Thr Gln Glu Pro
 290 295 300

Glu Leu Ala Ser Leu Thr Ala Gln Ser Leu Pro Tyr Gln Leu Pro Phe
 305 310 315 320

His Asn Phe Pro Leu Thr Cys Thr Asp Leu Ala Thr Leu Thr Asn Ile
 325 330 335

Leu Glu His Arg Glu Ala Pro Ile His Leu Asp Phe Asp Gly Cys Pro
 340 345 350

Leu Glu Pro His Cys Pro Glu Ala Leu Val Gly Cys Gly Gln Ile Glu
 355 360 365

Asn Leu Ser Phe Lys Ser Arg Lys Cys Gly Asp Ala Phe Ala Glu Ala
 370 375 380

Leu Ser Arg Ser Leu Pro Thr Met Gly Arg Leu Gln Met Leu Gly Leu
 385 390 395 400

Ala Gly Ser Lys Ile Thr Ala Arg Gly Ile Ser His Leu Val Lys Ala
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Leu Pro Leu Cys Pro Gln Leu Lys Glu Val Ser Phe Arg Asp Asn Gln
 420 425 430

Leu Ser Asp Gln Val Val Leu Asn Ile Val Glu Val Leu Pro His Leu
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Pro Arg Leu Arg Lys Leu Asp Leu Ser Ser Asn Ser Ile Cys Val Ser
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Thr Leu Leu Cys Leu Ala Arg Val Ala Val Thr Cys Pro Thr Val Arg
 465 470 475 480

Met Leu Gln Ala Arg Glu Arg Thr Ile Ile Phe Leu Leu Ser Pro Pro
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Thr Glu Thr Thr Ala Glu Leu Gln Arg Ala Pro Asp Leu Gln Glu Ser
 500 505 510

Asp Gly Gln Arg Lys Gly Ala Gln Ser Arg Ser Leu Thr Leu Arg Leu
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Gln Lys Cys Gln Leu Gln Val His Asp Ala Glu Ala Leu Ile Ala Leu
 530 535 540

Leu Gln Glu Gly Pro His Leu Glu Glu Val Asp Leu Ser Gly Asn Gln
 545 550 555 560

Leu Glu Asp Glu Gly Cys Arg Leu Met Ala Glu Ala Ala Ser Gln Leu
 565 570 575

His Ile Ala Arg Lys Leu Asp Leu Ser Asp Asn Gly Leu Ser Val Ala
 580 585 590

Gly Val His Cys Val Leu Arg Ala Val Ser Ala Cys Trp Thr Leu Ala
 595 600 605

Glu Leu His Ile Ser Leu Gln His Lys Thr Val Ile Phe Met Phe Ala
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Gln Glu Pro Glu Glu Gln Lys Gly Pro Gln Glu Arg Ala Ala Phe Leu
 625 630 635 640

Asp Ser Leu Met Leu Gln Met Pro Ser Glu Leu Pro Leu Ser Ser Arg
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Arg Met Arg Leu Thr His Cys Gly Leu Gln Glu Lys His Leu Glu Gln
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Leu Cys Lys Ala Leu Gly Gly Ser Cys His Leu Gly His Leu His Leu
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Asp Phe Ser Gly Asn Ala Leu Gly Asp Glu Gly Ala Ala Arg Leu Ala
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Gln Leu Leu Pro Gly Leu Gly Ala Leu Gln Ser Leu Asn Leu Ser Glu
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Asn Gly Leu Ser Leu Asp Ala Val Leu Gly Leu Val Arg Cys Phe Ser
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Thr Leu Gln Trp Leu Phe Arg Leu Asp Ile Ser Phe Glu Ser Gln His
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Ile Leu Leu Arg Gly Asp Lys Thr Ser Ser Leu Ser Glu Cys Pro Leu
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Glu Pro Pro Ser Leu Thr Arg Leu Cys Ala Thr Leu Lys Asp Cys Pro
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Gly Pro Leu Glu Leu Gln Leu Ser Cys Glu Phe Leu Ser Asp Gln Ser
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Leu Glu Thr Leu Leu Asp Cys Leu Pro Gln Leu Pro Gln Leu Ser Leu
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Leu Gln Leu Ser Gln Thr Gly Leu Ser Pro Lys Ser Pro Phe Leu Leu
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Ala Asn Thr Leu Ser Leu Cys Pro Arg Val Lys Lys Val Asp Leu Arg
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Ser Leu His His Ala Thr Leu His Phe Arg Ser Asn Glu Glu Glu Glu

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860

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Val Asp Leu Ser His Asn Ser Ile Ser Gln Glu Ser Ala Leu Tyr Leu
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Leu Gly Ser Glu Gln Ser Phe Arg Ile His Phe Ser Arg Glu Asp Gln
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Ala Gly Lys Thr Leu Arg Leu Ser Glu Cys Ser Phe Arg Pro Glu His
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Val Ser Arg Leu Ala Thr Gly Leu Ser Lys Ser Leu Gln Leu Thr Glu
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Leu Thr Leu Thr Gln Cys Cys Leu Gly Gln Lys Gln Leu Ala Ile Leu
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Leu Ser Leu Val Gly Arg Pro Ala Gly Leu Phe Ser Leu Arg Val Gln
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Glu Pro Trp Ala Asp Arg Ala Arg Val Leu Ser Leu Leu Glu Val
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Glu Asn Pro Glu Ala Val Ala Leu Arg Leu Ala His Cys Asp Leu
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Gly Ala His His Ser Leu Leu Val Gly Gln Leu Met Glu Thr Cys
 1070 1075 1080

Ala Arg Leu Gln Gln Leu Ser Leu Ser Gln Val Asn Leu Cys Glu
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His	Leu	Glu	Glu	Leu	Asp	Leu	Ser	Asn	Asn	Gln	Phe	Asp	Glu	Glu
1145						1150					1155			
Gly	Thr	Lys	Ala	Leu	Met	Arg	Ala	Leu	Glu	Gly	Lys	Trp	Met	Leu
1160						1165					1170			
Lys	Arg	Leu	Asp	Leu	Ser	His	Leu	Leu	Leu	Asn	Ser	Ser	Thr	Leu
1175						1180					1185			
Ala	Leu	Leu	Thr	His	Arg	Leu	Ser	Gln	Met	Thr	Cys	Leu	Gln	Ser
1190						1195					1200			
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Leu	Ser	His	Asn	Gln	Ile	Gly	Asp	Ala	Gly	Val	Gln	His	Leu	Ala
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Val Ser Cys Lys Ile Asp Asn Gln Thr Ala Lys Leu Leu Thr Ser
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<213> Homo sapiens

<400> 25

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tcaaggatac agaggcaccg caaggccctg ctgagcaagg tgggaggtgg cccggagctg 240

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<210> 26
 <211> 743
 <212> PRT
 <213> Homo sapiens

<400> 26

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Ala Gly Lys Gly Ser Gln Gly Ser Gln Ala Pro Gln Ala Leu Asp Arg
 35 40 45

Thr Pro Asp Ala Pro Leu Gly Pro Cys Ser Asn Asp Ser Arg Ile Gln
 50 55 60

Arg His Arg Lys Ala Leu Leu Ser Lys Val Gly Gly Gly Pro Glu Leu
 65 70 75 80

Gly Gly Pro Trp His Arg Leu Ala Ser Leu Leu Leu Val Glu Gly Leu
 85 90 95

Thr Asp Leu Gln Leu Arg Glu His Asp Phe Thr Gln Val Glu Ala Thr
 100 105 110

Arg Gly Gly Gly His Pro Ala Arg Thr Val Ala Leu Asp Arg Leu Phe
 115 120 125

Leu Pro Leu Ser Arg Val Ser Val Pro Pro Arg Val Ser Ile Thr Ile
 130 135 140

Gly Val Ala Gly Met Gly Lys Thr Thr Leu Val Arg His Phe Val Arg
 145 150 155 160

Leu Trp Ala His Gly Gln Val Gly Lys Asp Phe Ser Leu Val Leu Pro
 165 170 175

Leu Thr Phe Arg Asp Leu Asn Thr His Glu Lys Leu Cys Ala Asp Arg
 180 185 190

Leu Ile Cys Ser Val Phe Pro His Val Gly Glu Pro Ser Leu Ala Val
 195 200 205

Ala Val Pro Ala Arg Ala Leu Leu Ile Leu Asp Gly Leu Asp Glu Cys
 210 215 220

Arg Thr Pro Leu Asp Phe Ser Asn Thr Val Ala Cys Thr Asp Pro Lys
 225 230 235 240

Lys Glu Ile Pro Val Asp His Leu Ile Thr Asn Ile Ile Arg Gly Asn
 245 250 255

Leu Phe Pro Glu Val Ser Ile Trp Ile Thr Ser Arg Pro Ser Ala Ser
 260 265 270

Gly Gln Ile Pro Gly Gly Leu Val Asp Arg Met Thr Glu Ile Arg Gly
 275 280 285

Phe Asn Glu Glu Glu Ile Lys Val Cys Leu Glu Gln Met Phe Pro Glu
 290 295 300

Asp Gln Ala Leu Leu Gly Trp Met Leu Ser Gln Val Gln Ala Asp Arg
 305 310 315 320

Ala Leu Tyr Leu Met Cys Thr Val Pro Ala Phe Cys Arg Leu Thr Gly
 325 330 335

Met Ala Leu Gly His Leu Trp Arg Ser Arg Thr Gly Pro Gln Asp Ala
 340 345 350

Glu Leu Trp Pro Pro Arg Thr Leu Cys Glu Leu Tyr Ser Trp Tyr Phe
 355 360 365

Arg Met Ala Leu Ser Gly Glu Gly Gln Glu Lys Gly Lys Ala Ser Pro
 370 375 380

Arg Ile Glu Gln Val Ala His Gly Gly Arg Lys Met Val Gly Thr Leu
 385 390 395 400

Gly Arg Leu Ala Phe His Gly Leu Leu Lys Lys Lys Tyr Val Phe Tyr
 405 410 415

Glu Gln Asp Met Lys Ala Phe Gly Val Asp Leu Ala Leu Leu Gln Gly
 420 425 430

Ala Pro Cys Ser Cys Phe Leu Gln Arg Glu Glu Thr Leu Ala Ser Ser

435 440 445
 Val Ala Tyr Cys Phe Thr His Leu Ser Leu Gln Glu Phe Val Ala Ala
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 Ala Tyr Tyr Tyr Gly Ala Ser Arg Arg Ala Ile Phe Asp Leu Phe Thr
 465 470 475 480
 Glu Ser Gly Val Ser Trp Pro Arg Leu Gly Phe Leu Thr His Phe Arg
 485 490 495
 Ser Ala Ala Gln Arg Ala Met Gln Ala Glu Asp Gly Arg Leu Asp Val
 500 505 510
 Phe Leu Arg Phe Leu Ser Gly Leu Leu Ser Pro Arg Val Asn Ala Leu
 515 520 525
 Leu Ala Gly Ser Leu Leu Ala Gln Gly Glu His Gln Ala Tyr Arg Thr
 530 535 540
 Gln Val Ala Glu Leu Leu Gln Gly Cys Leu Arg Pro Asp Ala Ala Val
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 Cys Ala Arg Ala Ile Asn Val Leu His Cys Leu His Glu Leu Gln His
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 Thr Glu Leu Ala Arg Ser Val Glu Glu Ala Met Glu Ser Gly Ala Leu
 580 585 590
 Ala Arg Leu Thr Gly Pro Ala His Arg Ala Ala Leu Ala Tyr Leu Leu
 595 600 605
 Gln Val Ser Asp Ala Cys Ala Gln Glu Ala Asn Leu Ser Leu Ser Leu
 610 615 620
 Ser Gln Gly Val Leu Gln Ser Leu Leu Pro Gln Leu Leu Tyr Cys Arg
 625 630 635 640
 Lys Leu Arg Leu Arg Tyr Phe Ser Leu Ser Arg Arg Leu Val Ile Phe
 645 650 655
 Ser Leu Cys Leu Ser Pro His Gly Ala Val Leu Ser Phe Phe Leu Arg
 660 665 670
 Trp Ser Leu Ala Leu Ser Pro Arg Leu Glu Tyr Ser Gly Ala Ile Ser
 675 680 685

Ala His Cys Lys Arg Cys Leu Leu Gly Ser Ser Asp Ser Pro Ala Ser
690 695 700

Ala Ser Leu Val Ala Gly Ile Thr Gly Ala Arg His His Ala Trp Leu
705 710 715 720

Ile Phe Val Phe Leu Val Glu Thr Gly Phe His His Val Gly Gln Ala
725 730 735

Ala Leu Lys Leu Leu Thr Ser
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<210> 27
<211> 3489
<212> DNA
<213> Homo sapiens

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<210> 28
<211> 1065
<212> PRT
<213> Homo sapiens

<400> 28

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Gly Thr Gly Ser Pro Ala Glu Gln Val Lys Ala Leu Met Asp Leu Leu
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Ala Gly Lys Gly Ser Gln Gly Ser Gln Ala Pro Gln Ala Leu Asp Arg
35 40 45

Thr Pro Asp Ala Pro Leu Gly Pro Cys Ser Asn Asp Ser Arg Ile Gln
50 55 60

Arg His Arg Lys Ala Leu Leu Ser Lys Val Gly Gly Gly Pro Glu Leu
65 70 75 80

Gly Gly Pro Trp His Arg Leu Ala Ser Leu Leu Leu Val Glu Gly Leu
85 90 95

Thr Asp Leu Gln Leu Arg Glu His Asp Phe Thr Gln Val Glu Ala Thr
100 105 110

Arg Gly Gly Gly His Pro Ala Arg Thr Val Ala Leu Asp Arg Leu Phe
115 120 125

Leu Pro Leu Ser Arg Val Ser Val Pro Pro Arg Val Ser Ile Thr Ile

130

135

140

Gly Val Ala Gly Met Gly Lys Thr Thr Leu Val Arg His Phe Val Arg
 145 150 155 160

Leu Trp Ala His Gly Gln Val Gly Lys Asp Phe Ser Leu Val Leu Pro
 165 170 175

Leu Thr Phe Arg Asp Leu Asn Thr His Glu Lys Leu Cys Ala Asp Arg
 180 185 190

Leu Ile Cys Ser Val Phe Pro His Val Gly Glu Pro Ser Leu Ala Val
 195 200 205

Ala Val Pro Ala Arg Ala Leu Leu Ile Leu Asp Gly Leu Asp Glu Cys
 210 215 220

Arg Thr Pro Leu Asp Phe Ser Asn Thr Val Ala Cys Thr Asp Pro Lys
 225 230 235 240

Lys Glu Ile Pro Val Asp His Leu Ile Thr Asn Ile Ile Arg Gly Asn
 245 250 255

Leu Phe Pro Glu Val Ser Ile Trp Ile Thr Ser Arg Pro Ser Ala Ser
 260 265 270

Gly Gln Ile Pro Gly Gly Leu Val Asp Arg Met Thr Glu Ile Arg Gly
 275 280 285

Phe Asn Glu Glu Glu Ile Lys Val Cys Leu Glu Gln Met Phe Pro Glu
 290 295 300

Asp Gln Ala Leu Leu Gly Trp Met Leu Ser Gln Val Gln Ala Asp Arg
 305 310 315 320

Ala Leu Tyr Leu Met Cys Thr Val Pro Ala Phe Cys Arg Leu Thr Gly
 325 330 335

Met Ala Leu Gly His Leu Trp Arg Ser Arg Thr Gly Pro Gln Asp Ala
 340 345 350

Glu Leu Trp Pro Pro Arg Thr Leu Cys Glu Leu Tyr Ser Trp Tyr Phe
 355 360 365

Arg Met Ala Leu Ser Gly Glu Gly Gln Glu Lys Gly Lys Ala Ser Pro
 370 375 380

Arg Ile Glu Gln Val Ala His Gly Gly Arg Lys Met Val Gly Thr Leu
 385 390 395 400

Gly Arg Leu Ala Phe His Gly Leu Leu Lys Lys Lys Tyr Val Phe Tyr
 405 410 415

Glu Gln Asp Met Lys Ala Phe Gly Val Asp Leu Ala Leu Leu Gln Gly
 420 425 430

Ala Pro Cys Ser Cys Phe Leu Gln Arg Glu Glu Thr Leu Ala Ser Ser
 435 440 445

Val Ala Tyr Cys Phe Thr His Leu Ser Leu Gln Glu Phe Val Ala Ala
 450 455 460

Ala Tyr Tyr Tyr Gly Ala Ser Arg Arg Ala Ile Phe Asp Leu Phe Thr
 465 470 475 480

Glu Ser Gly Val Ser Trp Pro Arg Leu Gly Phe Leu Thr His Phe Arg
 485 490 495

Ser Ala Ala Gln Arg Ala Met Gln Ala Glu Asp Gly Arg Leu Asp Val
 500 505 510

Phe Leu Arg Phe Leu Ser Gly Leu Leu Ser Pro Arg Val Asn Ala Leu
 515 520 525

Leu Ala Gly Ser Leu Leu Ala Gln Gly Glu His Gln Ala Tyr Arg Thr
 530 535 540

Gln Val Ala Glu Leu Leu Gln Gly Cys Leu Arg Pro Asp Ala Ala Val
 545 550 555 560

Cys Ala Arg Ala Ile Asn Val Leu His Cys Leu His Glu Leu Gln His
 565 570 575

Thr Glu Leu Ala Arg Ser Val Glu Glu Ala Met Glu Ser Gly Ala Leu
 580 585 590

Ala Arg Leu Thr Gly Pro Ala His Arg Ala Ala Leu Ala Tyr Leu Leu
 595 600 605

Gln Val Ser Asp Ala Cys Ala Gln Glu Ala Asn Leu Ser Leu Ser Leu
 610 615 620

Ser Gln Gly Val Leu Gln Ser Leu Leu Pro Gln Leu Leu Tyr Cys Arg
625 630 635 640

Lys Leu Arg Leu Asp Thr Asn Gln Phe Gln Asp Pro Val Met Glu Leu
645 650 655

Leu Gly Ser Val Leu Ser Gly Lys Asp Cys Arg Ile Gln Lys Ile Ser
660 665 670

Leu Ala Glu Asn Gln Ile Ser Asn Lys Gly Ala Lys Ala Leu Ala Arg
675 680 685

Ser Leu Leu Val Asn Arg Ser Leu Thr Ser Leu Asp Leu Arg Gly Asn
690 695 700

Ser Ile Gly Pro Gln Gly Ala Lys Ala Leu Ala Asp Ala Leu Lys Ile
705 710 715 720

Asn Arg Thr Leu Thr Ser Leu Ser Leu Gln Gly Asn Thr Val Arg Asp
725 730 735

Asp Gly Ala Arg Ser Met Ala Glu Ala Leu Ala Ser Asn Arg Thr Leu
740 745 750

Ser Met Leu His Leu Gln Lys Asn Ser Ile Gly Pro Met Gly Ala Gln
755 760 765

Arg Met Ala Asp Ala Leu Lys Gln Asn Arg Ser Leu Lys Glu Leu Met
770 775 780

Phe Ser Ser Asn Ser Ile Gly Asp Gly Gly Ala Lys Ala Leu Ala Glu
785 790 795 800

Ala Leu Lys Val Asn Gln Gly Leu Glu Ser Leu Asp Leu Gln Ser Asn
805 810 815

Ser Ile Ser Asp Ala Gly Val Ala Ala Leu Met Gly Ala Leu Cys Thr
820 825 830

Asn Gln Thr Leu Leu Ser Leu Ser Leu Arg Glu Asn Ser Ile Ser Pro
835 840 845

Glu Gly Ala Gln Ala Ile Ala His Ala Leu Cys Ala Asn Ser Thr Leu
850 855 860

Lys Asn Leu Asp Leu Thr Ala Asn Leu Leu His Asp Gln Gly Ala Arg
865 870 875 880

Ala Ile Ala Val Ala Val Arg Glu Asn Arg Thr Leu Thr Ser Leu His
885 890 895

Leu Gln Trp Asn Phe Ile Gln Ala Gly Ala Ala Gln Ala Leu Gly Gln
900 905 910

Ala Leu Gln Leu Asn Arg Ser Leu Thr Ser Leu Asp Leu Gln Glu Asn
915 920 925

Ala Ile Gly Asp Asp Gly Ala Cys Ala Val Ala Arg Ala Leu Lys Val
930 935 940

Asn Thr Ala Leu Thr Ala Leu Tyr Leu Gln Val Ala Ser Ile Gly Ala
945 950 955 960

Ser Gly Ala Gln Val Leu Gly Glu Ala Leu Ala Val Asn Arg Thr Leu
965 970 975

Glu Ile Leu Asp Leu Arg Gly Asn Ala Ile Gly Val Ala Gly Ala Lys
980 985 990

Ala Leu Ala Asn Ala Leu Lys Val Asn Ser Ser Leu Arg Arg Leu Asn
995 1000 1005

Leu Gln Glu Asn Ser Leu Gly Met Asp Gly Ala Ile Cys Ile Ala
1010 1015 1020

Thr Ala Leu Ser Gly Asn His Arg Leu Gln His Ile Asn Leu Gln
1025 1030 1035

Gly Asn His Ile Gly Asp Ser Gly Ala Arg Met Ile Ser Glu Ala
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Ile Lys Thr Asn Ala Pro Thr Cys Thr Val Glu Met
1055 1060 1065

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<211> 282
<212> DNA
<213> Homo sapiens

<400> 29
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aggggtcaga cagagaaggc agaccatgtg gatctagcca cgctaatagat cgacttcaat 180
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 ctttatgaga aagcaaaaag agatgagccg aagtgggggtt ag 282

<210> 30
 <211> 93
 <212> PRT
 <213> Homo sapiens

<400> 30

Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Leu Glu Asp Leu Glu
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Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro Pro
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Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly Gln Thr Glu Lys Ala Asp
 35 40 45

His Val Asp Leu Ala Thr Leu Met Ile Asp Phe Asn Gly Glu Glu Lys
 50 55 60

Ala Trp Ala Met Ala Val Trp Ile Phe Ala Ala Ile Asn Arg Arg Asp
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Leu Tyr Glu Lys Ala Lys Arg Asp Glu Pro Lys Trp Gly
 85 90

<210> 31
 <211> 2154
 <212> DNA
 <213> Homo sapiens

<400> 31

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 gaggtcctct tcaccatgtg cttcatcccc ctggtctgct ggatcgtgtg cactggactg 1260
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 tgcgcccacc tctgggggct ctgctctttg gctgcagatg gaatctggaa ccagaaaatc 1440
 ctgtttgagg agtccgacct caggaatcat ggactgcaga aggcggatgt gtctgctttc 1500
 ctgaggatga acctgttcca aaaggaagtg gactgcgaga agttctacag cttcatccac 1560
 atgactttcc aggagttctt tgccgccatg tactacctgc tggaagagga aaaggaagga 1620
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 gtgcaaaggg ccatggacta tttccccaag attgagatca atctctccac cagaatggac 1980
 cacatggttt cttccttttg cattgagaac tgtcatcggg tggagtcact gtccctgggg 2040
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<210> 32
 <211> 717
 <212> PRT
 <213> Homo sapiens

<400> 32

Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Leu Glu Asp Leu Glu
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Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro Pro
20 25 30

Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly Gln Thr Glu Lys Ala Asp
35 40 45

His Val Asp Leu Ala Thr Leu Met Ile Asp Phe Asn Gly Glu Glu Lys
50 55 60

Ala Trp Ala Met Ala Val Trp Ile Phe Ala Ala Ile Asn Arg Arg Asp
65 70 75 80

Leu Tyr Glu Lys Ala Lys Arg Asp Glu Pro Lys Trp Gly Ser Asp Asn
85 90 95

Ala Arg Val Ser Asn Pro Thr Val Ile Cys Gln Glu Asp Ser Ile Glu
100 105 110

Glu Glu Trp Met Gly Leu Leu Glu Tyr Leu Ser Arg Ile Ser Ile Cys
115 120 125

Lys Met Lys Lys Asp Tyr Arg Lys Lys Tyr Arg Lys Tyr Val Arg Ser
130 135 140

Arg Phe Gln Cys Ile Glu Asp Arg Asn Ala Arg Leu Gly Glu Ser Val
145 150 155 160

Ser Leu Asn Lys Arg Tyr Thr Arg Leu Arg Leu Ile Lys Glu His Arg
165 170 175

Ser Gln Gln Glu Arg Glu Gln Glu Leu Leu Ala Ile Gly Lys Thr Lys
180 185 190

Thr Cys Glu Ser Pro Val Ser Pro Ile Lys Met Glu Leu Leu Phe Asp
195 200 205

Pro Asp Asp Glu His Ser Glu Pro Val His Thr Val Val Phe Gln Gly
210 215 220

Ala Ala Gly Ile Gly Lys Thr Ile Leu Ala Arg Lys Met Met Leu Asp
225 230 235 240

Trp Ala Ser Gly Thr Leu Tyr Gln Asp Arg Phe Asp Tyr Leu Phe Tyr
245 250 255

Ile His Cys Arg Glu Val Ser Leu Val Thr Gln Arg Ser Leu Gly Asp
260 265 270

Leu Ile Met Ser Cys Cys Pro Asp Pro Asn Pro Pro Ile His Lys Ile
275 280 285

Val Arg Lys Pro Ser Arg Ile Leu Phe Leu Met Asp Gly Phe Asp Glu
290 295 300

Leu Gln Gly Ala Phe Asp Glu His Ile Gly Pro Leu Cys Thr Asp Trp
305 310 315 320

Gln Lys Ala Glu Arg Gly Asp Ile Leu Leu Ser Ser Leu Ile Arg Lys
325 330 335

Lys Leu Leu Pro Glu Ala Ser Leu Leu Ile Thr Thr Arg Pro Val Ala
340 345 350

Leu Glu Lys Leu Gln His Leu Leu Asp His Pro Arg His Val Glu Ile
355 360 365

Leu Gly Phe Ser Glu Ala Lys Arg Lys Glu Tyr Phe Phe Lys Tyr Phe
370 375 380

Ser Asp Glu Ala Gln Ala Arg Ala Ala Phe Ser Leu Ile Gln Glu Asn
385 390 395 400

Glu Val Leu Phe Thr Met Cys Phe Ile Pro Leu Val Cys Trp Ile Val
405 410 415

Cys Thr Gly Leu Lys Gln Gln Met Glu Ser Gly Lys Ser Leu Ala Gln
420 425 430

Thr Ser Lys Thr Thr Thr Ala Val Tyr Val Phe Phe Leu Ser Ser Leu
435 440 445

Leu Gln Pro Arg Gly Gly Ser Gln Glu His Gly Leu Cys Ala His Leu
450 455 460

Trp Gly Leu Cys Ser Leu Ala Ala Asp Gly Ile Trp Asn Gln Lys Ile
465 470 475 480

Leu Phe Glu Glu Ser Asp Leu Arg Asn His Gly Leu Gln Lys Ala Asp
485 490 495

Val Ser Ala Phe Leu Arg Met Asn Leu Phe Gln Lys Glu Val Asp Cys
500 505 510

Glu Lys Phe Tyr Ser Phe Ile His Met Thr Phe Gln Glu Phe Phe Ala
515 520 525

Ala Met Tyr Tyr Leu Leu Glu Glu Glu Lys Glu Gly Arg Thr Asn Val
530 535 540

Pro Gly Ser Arg Leu Lys Leu Pro Ser Arg Asp Val Thr Val Leu Leu
545 550 555 560

Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr Leu Ile Phe Val Val Arg
565 570 575

Phe Leu Phe Gly Leu Val Asn Gln Glu Arg Thr Ser Tyr Leu Glu Lys
580 585 590

Lys Leu Ser Cys Lys Ile Ser Gln Gln Ile Arg Leu Glu Leu Leu Lys
595 600 605

Trp Ile Glu Val Lys Ala Lys Ala Lys Lys Leu Gln Ile Gln Pro Ser
610 615 620

Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu Met Gln Glu Glu Asp Phe
625 630 635 640

Val Gln Arg Ala Met Asp Tyr Phe Pro Lys Ile Glu Ile Asn Leu Ser
645 650 655

Thr Arg Met Asp His Met Val Ser Ser Phe Cys Ile Glu Asn Cys His
660 665 670

Arg Val Glu Ser Leu Ser Leu Gly Phe Leu His Asn Met Pro Lys Glu
675 680 685

Glu Glu Glu Glu Glu Lys Glu Gly Arg His Leu Asp Met Val Gln Cys
690 695 700

Val Leu Pro Ser Ser Ser His Ala Ala Cys Ser His Gly
705 710 715

<210> 33
 <211> 2835
 <212> DNA
 <213> Homo sapiens

<400> 33
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 aagaaagatt accgtaagaa gtacagaaag tacgtgagaa gcagattcca gtgcattgaa 180
 gacaggaatg cccgtctggg tgagagtgtg agcctcaaca aacgctacac acgactgcgt 240
 ctcacaaagg agcaccggag ccagcaggag agggagcagg agcttctggc catcggcaag 300
 accaagacgt gtgagagccc cgtgagtccc attaagatgg agttgctgtt tgaccccgat 360
 gatgagcatt ctgagcctgt gcacaccgtg gtgttccagg gggcggcagg gattgggaaa 420
 acaatcctgg ccaggaagat gatgttggac tgggcgtcgg ggacactcta ccaagacagg 480
 tttgactatc tgtttctatat cctctgtcgg gaggtgagcc ttgtgacaca gaggagcctg 540
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 cttcccagcc gagacgtgac agtccttctg gaaaactatg gcaaattcga aaaggggtat 1440
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 gagaagaaat taagttgcaa gatctctcag caaatcaggc tggagctgct gaaatggatt 1560
 gaagtgaag ccaaagctaa aaagctgcag atccagccca gccagctgga attgtttctac 1620
 tgtttgtagc agatgcagga ggaggacttc gtgcaaaggc ccattggacta tttccccaag 1680

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attgagatca atctctccac cagaatggac cacatggttt cttccttttg cattgagaac 1740
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gaggaggaaa aggaaggccg acaccttgat atggtgcagt gtgtcctccc aagctcctct 1860
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gagccttctt ggtag 2835

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<210> 34
<211> 944
<212> PRT
<213> Homo sapiens

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<400> 34

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Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Pro Thr Val Ile Cys
1           5           10           15

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Gln Glu Asp Ser Ile Glu Glu Glu Trp Met Gly Leu Leu Glu Tyr Leu
          20           25           30

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Ser Arg Ile Ser Ile Cys Lys Met Lys Lys Asp Tyr Arg Lys Lys Tyr
          35           40           45

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Arg Lys Tyr Val Arg Ser Arg Phe Gln Cys Ile Glu Asp Arg Asn Ala
 50 55 60

Arg Leu Gly Glu Ser Val Ser Leu Asn Lys Arg Tyr Thr Arg Leu Arg
 65 70 75 80

Leu Ile Lys Glu His Arg Ser Gln Gln Glu Arg Glu Gln Glu Leu Leu
 85 90 95

Ala Ile Gly Lys Thr Lys Thr Cys Glu Ser Pro Val Ser Pro Ile Lys
 100 105 110

Met Glu Leu Leu Phe Asp Pro Asp Asp Glu His Ser Glu Pro Val His
 115 120 125

Thr Val Val Phe Gln Gly Ala Ala Gly Ile Gly Lys Thr Ile Leu Ala
 130 135 140

Arg Lys Met Met Leu Asp Trp Ala Ser Gly Thr Leu Tyr Gln Asp Arg
 145 150 155 160

Phe Asp Tyr Leu Phe Tyr Ile His Cys Arg Glu Val Ser Leu Val Thr
 165 170 175

Gln Arg Ser Leu Gly Asp Leu Ile Met Ser Cys Cys Pro Asp Pro Asn
 180 185 190

Pro Pro Ile His Lys Ile Val Arg Lys Pro Ser Arg Ile Leu Phe Leu
 195 200 205

Met Asp Gly Phe Asp Glu Leu Gln Gly Ala Phe Asp Glu His Ile Gly
 210 215 220

Pro Leu Cys Thr Asp Trp Gln Lys Ala Glu Arg Gly Asp Ile Leu Leu
 225 230 235 240

Ser Ser Leu Ile Arg Lys Lys Leu Leu Pro Glu Ala Ser Leu Leu Ile
 245 250 255

Thr Thr Arg Pro Val Ala Leu Glu Lys Leu Gln His Leu Leu Asp His
 260 265 270

Pro Arg His Val Glu Ile Leu Gly Phe Ser Glu Ala Lys Arg Lys Glu
 275 280 285

Tyr Phe Phe Lys Tyr Phe Ser Asp Glu Ala Gln Ala Arg Ala Ala Phe

290

295

300

Ser Leu Ile Gln Glu Asn Glu Val Leu Phe Thr Met Cys Phe Ile Pro
 305 310 315 320

Leu Val Cys Trp Ile Val Cys Thr Gly Leu Lys Gln Gln Met Glu Ser
 325 330 335

Gly Lys Ser Leu Ala Gln Thr Ser Lys Thr Thr Thr Ala Val Tyr Val
 340 345 350

Phe Phe Leu Ser Ser Leu Leu Gln Pro Arg Gly Gly Ser Gln Glu His
 355 360 365

Gly Leu Cys Ala His Leu Trp Gly Leu Cys Ser Leu Ala Ala Asp Gly
 370 375 380

Ile Trp Asn Gln Lys Ile Leu Phe Glu Glu Ser Asp Leu Arg Asn His
 385 390 395 400

Gly Leu Gln Lys Ala Asp Val Ser Ala Phe Leu Arg Met Asn Leu Phe
 405 410 415

Gln Lys Glu Val Asp Cys Glu Lys Phe Tyr Ser Phe Ile His Met Thr
 420 425 430

Phe Gln Glu Phe Phe Ala Ala Met Tyr Tyr Leu Leu Glu Glu Glu Lys
 435 440 445

Glu Gly Arg Thr Asn Val Pro Gly Ser Arg Leu Lys Leu Pro Ser Arg
 450 455 460

Asp Val Thr Val Leu Leu Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr
 465 470 475 480

Leu Ile Phe Val Val Arg Phe Leu Phe Gly Leu Val Asn Gln Glu Arg
 485 490 495

Thr Ser Tyr Leu Glu Lys Lys Leu Ser Cys Lys Ile Ser Gln Gln Ile
 500 505 510

Arg Leu Glu Leu Leu Lys Trp Ile Glu Val Lys Ala Lys Ala Lys Lys
 515 520 525

Leu Gln Ile Gln Pro Ser Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu
 530 535 540

Met Gln Glu Glu Asp Phe Val Gln Arg Ala Met Asp Tyr Phe Pro Lys
 545 550 555 560

Ile Glu Ile Asn Leu Ser Thr Arg Met Asp His Met Val Ser Ser Phe
 565 570 575

Cys Ile Glu Asn Cys His Arg Val Glu Ser Leu Ser Leu Gly Phe Leu
 580 585 590

His Asn Met Pro Lys Glu Glu Glu Glu Glu Lys Glu Gly Arg His
 595 600 605

Leu Asp Met Val Gln Cys Val Leu Pro Ser Ser Ser His Ala Ala Cys
 610 615 620

Ser His Gly Leu Val Asn Ser His Leu Thr Ser Ser Phe Cys Arg Gly
 625 630 635 640

Leu Phe Ser Val Leu Ser Thr Ser Gln Ser Leu Thr Glu Leu Asp Leu
 645 650 655

Ser Asp Asn Ser Leu Gly Asp Pro Gly Met Arg Val Leu Cys Glu Thr
 660 665 670

Leu Gln His Pro Gly Cys Asn Ile Arg Arg Leu Trp Leu Gly Arg Cys
 675 680 685

Gly Leu Ser His Glu Cys Cys Phe Asp Ile Ser Leu Val Leu Ser Ser
 690 695 700

Asn Gln Lys Leu Val Glu Leu Asp Leu Ser Asp Asn Ala Leu Gly Asp
 705 710 715 720

Phe Gly Ile Arg Leu Leu Cys Val Gly Leu Lys His Leu Leu Cys Asn
 725 730 735

Leu Lys Lys Leu Trp Leu Val Ser Cys Cys Leu Thr Ser Ala Cys Cys
 740 745 750

Gln Asp Leu Ala Ser Val Leu Ser Thr Ser His Ser Leu Thr Arg Leu
 755 760 765

Tyr Val Gly Glu Asn Ala Leu Gly Asp Ser Gly Val Ala Ile Leu Cys
 770 775 780

Glu Lys Ala Lys Asn Pro Gln Cys Asn Leu Gln Lys Leu Gly Leu Val
785 790 795 800

Asn Ser Gly Leu Thr Ser Val Cys Cys Ser Ala Leu Ser Ser Val Leu
805 810 815

Ser Thr Asn Gln Asn Leu Thr His Leu Tyr Leu Arg Gly Asn Thr Leu
820 825 830

Gly Asp Lys Gly Ile Lys Leu Leu Cys Glu Gly Leu Leu His Pro Asp
835 840 845

Cys Lys Leu Gln Val Leu Glu Leu Asp Asn Cys Asn Leu Thr Ser His
850 855 860

Cys Cys Trp Asp Leu Ser Thr Leu Leu Thr Ser Ser Gln Ser Leu Arg
865 870 875 880

Lys Leu Ser Leu Gly Asn Asn Asp Leu Gly Asp Leu Gly Val Met Met
885 890 895

Phe Cys Glu Val Leu Lys Gln Gln Ser Cys Leu Leu Gln Asn Leu Gly
900 905 910

Leu Ser Glu Met Tyr Phe Asn Tyr Glu Thr Lys Ser Ala Leu Glu Thr
915 920 925

Leu Gln Glu Glu Lys Pro Glu Leu Thr Val Val Phe Glu Pro Ser Trp
930 935 940

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<211> 993
<212> DNA
<213> Homo sapiens

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gacctcagtg acaattctct gggggaccca gggatgagag tgttgtgtga aacgctccag 180
catcctggct gtaacattcg gagattgtgg ttggggcgct gtggcctctc gcatgagtg 240
tgcttcgaca tctccttggt cctcagcagc aaccagaagc tggatggagct ggacctgagt 300
gacaacgccc tcggtgactt cggaatcaga cttctgtgtg tgggactgaa gcacctgttg 360
tgcaatctga agaagctctg gttggtcagc tgctgcctca catcagcatg ttgtcaggat 420

cttgcatcag tattgagcac cagccattcc ctgaccagac tctatgtggg ggagaatgcc 480
 ttgggagact caggagtcgc aattttatgt gaaaaagcca agaatccaca gtgtaacctg 540
 cagaaactgg gggttggtgaa ttctggcctt acgtcagtct gttgttcagc tttgtcctcg 600
 gtactcagca ctaatcagaa tctcacgcac ctttacctgc gaggcaacac tctcggagac 660
 aaggggatca aactactctg tgaggggactc ttgcaccccg actgcaagct tcaggtgttg 720
 gaattagaca actgcaacct cacgtcacac tgctgctggg atctttccac acttctgacc 780
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 atgatgttct gtgaagtgtc gaaacagcag agctgcctcc tgcagaacct ggggttgtct 900
 gaaatgtatt tcaattatga gacaaaaagt gcgttagaaa cacttcaaga agaaaagcct 960
 gagctgaccg tcgtctttga gccttcttgg tag 993

<210> 36
 <211> 330
 <212> PRT
 <213> Homo sapiens

<400> 36

Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr His Gly Leu Val Asn
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Ser His Leu Thr Ser Ser Phe Cys Arg Gly Leu Phe Ser Val Leu Ser
 20 25 30

Thr Ser Gln Ser Leu Thr Glu Leu Asp Leu Ser Asp Asn Ser Leu Gly
 35 40 45

Asp Pro Gly Met Arg Val Leu Cys Glu Thr Leu Gln His Pro Gly Cys
 50 55 60

Asn Ile Arg Arg Leu Trp Leu Gly Arg Cys Gly Leu Ser His Glu Cys
 65 70 75 80

Cys Phe Asp Ile Ser Leu Val Leu Ser Ser Asn Gln Lys Leu Val Glu
 85 90 95

Leu Asp Leu Ser Asp Asn Ala Leu Gly Asp Phe Gly Ile Arg Leu Leu
 100 105 110

Cys Val Gly Leu Lys His Leu Leu Cys Asn Leu Lys Lys Leu Trp Leu
 115 120 125

Val Ser Cys Cys Leu Thr Ser Ala Cys Cys Gln Asp Leu Ala Ser Val

130

135

140

Leu Ser Thr Ser His Ser Leu Thr Arg Leu Tyr Val Gly Glu Asn Ala
 145 150 155 160

Leu Gly Asp Ser Gly Val Ala Ile Leu Cys Glu Lys Ala Lys Asn Pro
 165 170 175

Gln Cys Asn Leu Gln Lys Leu Gly Leu Val Asn Ser Gly Leu Thr Ser
 180 185 190

Val Cys Cys Ser Ala Leu Ser Ser Val Leu Ser Thr Asn Gln Asn Leu
 195 200 205

Thr His Leu Tyr Leu Arg Gly Asn Thr Leu Gly Asp Lys Gly Ile Lys
 210 215 220

Leu Leu Cys Glu Gly Leu Leu His Pro Asp Cys Lys Leu Gln Val Leu
 225 230 235 240

Glu Leu Asp Asn Cys Asn Leu Thr Ser His Cys Cys Trp Asp Leu Ser
 245 250 255

Thr Leu Leu Thr Ser Ser Gln Ser Leu Arg Lys Leu Ser Leu Gly Asn
 260 265 270

Asn Asp Leu Gly Asp Leu Gly Val Met Met Phe Cys Glu Val Leu Lys
 275 280 285

Gln Gln Ser Cys Leu Leu Gln Asn Leu Gly Leu Ser Glu Met Tyr Phe
 290 295 300

Asn Tyr Glu Thr Lys Ser Ala Leu Glu Thr Leu Gln Glu Glu Lys Pro
 305 310 315 320

Glu Leu Thr Val Val Phe Glu Pro Ser Trp
 325 330

<210> 37
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 37

Gly Ala Ala Gly Ile Gly Lys Thr
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<210> 38
<211> 8
<212> PRT
<213> Homo sapiens

<400> 38

Gly Asp Ala Gly Val Gly Lys Ser
1 5

<210> 39
<211> 8
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<213> Homo sapiens

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Gly Ser Ala Gly Thr Gly Lys Thr
1 5

<210> 40
<211> 8
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Gly Ala Ala Gly Val Gly Lys Thr
1 5

<210> 41
<211> 8
<212> PRT
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<400> 41

Gly Pro Ala Gly Thr Gly Lys Thr
1 5

<210> 42
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<400> 42

Gly Thr Val Gly Thr Gly Lys Ser
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<210> 43
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<400> 43

Gly Lys Ala Gly Gln Gly Lys Ser
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<210> 44

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<213> Homo sapiens

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Gly Glu Ala Gly Ser Gly Lys Ser
1 5

<210> 45

<211> 8

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<400> 45

Gly Lys Ala Gly Met Gly Lys Thr
1 5

<210> 46

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Gly Val Ala Gly Met Gly Lys Thr
1 5

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<400> 47

Gly Ala Ala Gly Ile Gly Lys Ser
1 5

<210> 48

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<213> Homo sapiens

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Gly Pro Ala Gly Leu Gly Lys Thr
1 5

<210> 49
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Gly Pro Asp Gly Ile Gly Lys Thr
1 5

<210> 50
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Gly Ala Pro Gly Ile Gly Lys Thr
1 5

<210> 51
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Gly Ala Ala Gly Ile Gly Lys Ser
1 5

<210> 52
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Gly Pro Ala Gly Val Gly Lys Thr
1 5

<210> 53
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<400> 53

Gly Pro Gln Gly Ile Gly Lys Thr
1 5

<210> 54
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<212> PRT
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<400> 54

Gly Glu Arg Ala Ser Gly Lys Thr
1 5

<210> 55
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Gly Arg Ala Gly Val Gly Lys Thr
1 5

<210> 56
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<400> 56

Gly Lys Ser Gly Ile Gly Lys Ser
1 5

<210> 57
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<400> 57

Ala Cys Ala Gly Thr Gly Lys Thr
1 5

<210> 58
<211> 8
<212> PRT
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<400> 58

Gly Met Ala Gly Cys Gly Lys Ser
1 5

<210> 59
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<400> 59

Gly Met Gly Gly Ser Gly Lys Thr
1 5

<210> 60

<211> 8
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<400> 60

Gly Glu Ala Gly Ser Gly Lys Thr
1 5

<210> 61
<211> 8
<212> PRT
<213> Homo sapiens

<400> 61

Gly Asp Pro Gly Lys Gly Lys Thr
1 5

<210> 62
<211> 8
<212> PRT
<213> Homo sapiens

<400> 62

Gly Gln Ser Gly Gln Gly Lys Thr
1 5

<210> 63
<211> 8
<212> PRT
<213> Homo sapiens

<400> 63

Gly Ala Gly Glu Ser Gly Lys Ser
1 5

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Asp Ala Tyr Gly
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<210> 65
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<400> 65

Asp Glu Pro Gly
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<210> 66
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<400> 66

Asp Glu Leu Gly
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<210> 67
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<400> 67

Asp Ile Cys Gly
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<210> 68
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<400> 68

Asp Asp Leu Gly
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<210> 69
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<400> 69

Asp Pro Val Gly
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<210> 70
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Asp Lys Ser Gly
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<210> 71
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<400> 71

Asp His Ala Gly
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<400> 72

Asp Gln Asn Gly
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Asp Lys Leu Gly
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Leu Phe Leu Met Asp
1 5

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Leu Phe Thr Phe Asp
1 5

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<400> 76

Leu Phe Ile Leu Asp

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5

<210> 77
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Leu Phe Ile Ile Asp
1 5

<210> 78
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<400> 78

Leu Phe Ile Met Asp
1 5

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<400> 79

Leu Leu Ile Leu Asp
1 5

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Leu Leu Thr Phe Asp
1 5

<210> 81
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Leu Leu Ile Phe Asp
1 5

<210> 82
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Leu Phe Val Ile Asp
1 5

<210> 83

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<400> 83

Leu Leu Leu Leu Asp
1 5

<210> 84

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<400> 84

Leu Phe Ile Leu Glu Asp
1 5

<210> 85

<211> 5

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<400> 85

Ile Val Val Leu Asp
1 5

<210> 86

<211> 5

<212> PRT

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<400> 86

Leu Phe Leu Leu Asp
1 5

<210> 87

<211> 5

<212> PRT

<213> Homo sapiens

<400> 87

Tyr Leu Ile Ile Asp
1 5

<210> 88
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<400> 88

Val Leu Ile Ile Asp
1 5

<210> 89
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<400> 89

Ser Lys Ala Asp
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<210> 90
<211> 4
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<400> 90

Thr Lys His Asp
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<210> 91
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<213> Homo sapiens

<400> 91

Ser Lys Gln Asp
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<210> 92
<211> 8
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<213> Artificial Sequence

<220>
<223> Consensus P-Loop Motif

<220>
<221> MISC_FEATURE
<222> (2)..(5)
<223> "Xaa" denotes any amino acid residue

<220>

<221> MISC_FEATURE
<222> (8)..(8)
<223> "Xaa" denotes Serine or Threonine.

<400> 92

Gly Xaa Xaa Xaa Xaa Gly Lys Xaa
1 5

<210> 93
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Mg+2 Site (G3)

<220>
<221> MISC_FEATURE
<222> (2)..(4)
<223> "Xaa" denotes any amino acid residue

<400> 93

Asp Xaa Xaa Gly
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<210> 94
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Mg+2 Site (Kinase2)

<220>
<221> MISC_FEATURE
<222> (1)..(4)
<223> "Xaa" denotes a hydrophobic amino acid residue

<400> 94

Xaa Xaa Xaa Xaa Asp
1 5

<210> 95
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Guanine-binding site (G3)

<220>
<221> MISC_FEATURE

<222> (1)..(1)
 <223> "Xaa" denotes Asn, Ser, or Thr
 <220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> "Xaa" denotes any amino acid residue

<400> 95

Xaa Lys Xaa Asp
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<220>
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20

<210> 97
 <211> 19
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<220>
 <223> Synthetic primer

<400> 97
 gcccagttct gggtcattt

19

<210> 98
 <211> 23
 <212> DNA
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<220>
 <223> Synthetic probe

<400> 98
 cagcagagcc tcagagtgtc tcg

23

<210> 99
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic primer

<400> 99
 gctgctggca ccagactt

18

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<220>
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<400> 105
gggaccggga gacacagat 19

<210> 106
<211> 20
<212> DNA
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<400> 106
gcgcaggttc tctcggttaag 20

<210> 107
<211> 16
<212> DNA
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<220>
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<400> 107
caagaccaac acacag 16

<210> 108
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<220>
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<400> 108
gccgcagggc tattgctta 19

<210> 109
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<212> DNA
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<220>
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<400> 109
catattgaca acgcctccag aa 22

<210> 110

<211> 17
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<220>
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<400> 110
cactcacaga gacagct

17

<210> 111
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<220>
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<400> 111
acctcaacta catggtttac

20

<210> 112
<211> 20
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<400> 112
gaagatggtg atgggatttc

20

<210> 113
<211> 20
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<400> 113
caagcttccc gttctcagcc

20

<210> 114
<211> 31
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<220>
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<400> 114
ggggtaccgc tacgaaccgc aggcagggac g

31

<210> 115
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<400> 115
cagcctgggtc acgtcctggt ctg 23

<210> 116
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<400> 116
cagaaggaca tcaactgtga gag 23

<210> 117
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<400> 117
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<210> 118
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<400> 118
ttgagcggat aaacaggaag gac 23

<210> 119
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<400> 119
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<210> 120
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<400> 120

cgtctggctc aaagagggtc tctatc

26

<210> 121

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26

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<212> DNA

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<400> 122

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19

<210> 123

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

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<400> 123

gtccatgcta acacacaag

19

<210> 124

<211> 21

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<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 124

agaggacctg gtaggggata c

21

<210> 125

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 125
cttccagaag gcatgttgac 20

<210> 126
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<400> 126
cccgtcctca cttgggaacc a 21

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<400> 127
cagaaggaca tcaactgtga gag 23

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<400> 128
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aactttgcct ttgaagaacc tgag 24

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 acatgaaggt ggygaacac atag 24

<210> 131
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<210> 133
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 gaaagggctt ctctagttga ccagccacgt tctctggctg gtcaactaga gaagaaaaac 120
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<220>
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<220>
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 <400> 135
 atcttctgaa tgcgacagtc cttc 24

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 <400> 137
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 <400> 138
 ctgggaaggg cagtcaag 18

 <210> 139
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 <210> 140
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 <400> 143
 cagcagagcc tcagagtgct tcg 23

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<400> 147
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<210> 148
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 aggggtcaga cagagaaggc agaccatgtg gatctagcca cgctaataat cgacttcaat 180
 ggggaggaga aggcgtgggc catggccgtg tggatcttcg ctgcatcaa caggagagac 240
 ctttatgaga aagcaaaaag agatgagccg aagtgggggtt cagataatgc acgtgtttcg 300
 aatcccactg tgataatgcca ggaagacagc attgaagagg agtggatggg tttactggag 360
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<213> Mus musculus

<400> 149

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Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro Pro
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Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly Gln Thr Glu Lys Ala Asp
35 40 45

His Val Asp Leu Ala Thr Leu Met Ile Asp Phe Asn Gly Glu Glu Lys
50 55 60

Ala Trp Ala Met Ala Val Trp Ile Phe Ala Ala Ile Asn Arg Arg Asp
65 70 75 80

Leu Tyr Glu Lys Ala Lys Arg Asp Glu Pro Lys Trp Gly Ser Asp Asn
85 90 95

Ala Arg Val Ser Asn Pro Thr Val Ile Cys Gln Glu Asp Ser Ile Glu
100 105 110

Glu Glu Trp Met Gly Leu Leu Glu Tyr Leu Ser Arg Ile Ser Ile Cys
115 120 125

Lys Met Lys Lys Asp Tyr Arg Lys Lys Tyr Arg Lys Tyr Val Arg Ser
130 135 140

Arg Phe Gln Cys Ile Glu Asp Arg Asn Ala Arg Leu Gly Glu Ser Val
145 150 155 160

Ser Leu Asn Lys Arg Tyr Thr Arg Leu Arg Leu Ile Lys Glu His Arg
165 170 175

Ser Gln Gln Glu Arg Glu Gln Glu Leu Leu Ala Ile Gly Lys Thr Lys

180

185

190

Thr Cys Glu Ser Pro Val Ser Pro Ile Lys Met Glu Leu Leu Phe Asp
 195 200 205

Pro Asp Asp Glu His Ser Glu Pro Val His Thr Val Val Phe Gln Gly
 210 215 220

Ala Ala Gly Ile Gly Lys Thr Ile Leu Ala Arg Lys Met Met Leu Asp
 225 230 235 240

Trp Ala Ser Gly Thr Leu Tyr Gln Asp Arg Phe Asp Tyr Leu Phe Tyr
 245 250 255

Ile His Cys Arg Glu Val Ser Leu Val Thr Gln Arg Ser Leu Gly Asp
 260 265 270

Leu Ile Met Ser Cys Cys Pro Asp Pro Asn Pro Pro Ile His Lys Ile
 275 280 285

Val Arg Lys Pro Ser Arg Ile Leu Phe Leu Met Asp Gly Phe Asp Glu
 290 295 300

Leu Gln Gly Ala Phe Asp Glu His Ile Gly Pro Leu Cys Thr Asp Trp
 305 310 315 320

Gln Lys Ala Glu Arg Gly Asp Ile Leu Leu Ser Ser Leu Ile Arg Lys
 325 330 335

Lys Leu Leu Pro Glu Ala Ser Leu Leu Ile Thr Thr Arg Pro Val Ala
 340 345 350

Leu Glu Lys Leu Gln His Leu Leu Asp His Pro Arg His Val Glu Ile
 355 360 365

Leu Gly Phe Ser Glu Ala Lys Arg Lys Glu Tyr Phe Phe Lys Tyr Phe
 370 375 380

Ser Asp Glu Ala Gln Ala Arg Ala Ala Phe Ser Leu Ile Gln Glu Asn
 385 390 395 400

Glu Val Leu Phe Thr Met Cys Phe Ile Pro Leu Val Cys Trp Ile Val
 405 410 415

Cys Thr Gly Leu Lys Gln Gln Met Glu Ser Gly Lys Ser Leu Ala Gln
 420 425 430

Thr Ser Lys Thr Thr Thr Ala Val Tyr Val Phe Phe Leu Ser Ser Leu
435 440 445

Leu Gln Pro Arg Gly Gly Ser Gln Glu His Gly Leu Cys Ala His Leu
450 455 460

Trp Gly Leu Cys Ser Leu Ala Ala Asp Gly Ile Trp Asn Gln Lys Ile
465 470 475 480

Leu Phe Glu Glu Ser Asp Leu Arg Asn His Gly Leu Gln Lys Ala Asp
485 490 495

Val Ser Ala Phe Leu Arg Met Asn Leu Phe Gln Lys Glu Val Asp Cys
500 505 510

Glu Lys Phe Tyr Ser Phe Ile His Met Thr Phe Gln Glu Phe Phe Ala
515 520 525

Ala Met Tyr Tyr Leu Leu Glu Glu Glu Lys Glu Gly Arg Thr Asn Val
530 535 540

Pro Gly Ser Arg Leu Lys Leu Pro Ser Arg Asp Val Thr Val Leu Leu
545 550 555 560

Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr Leu Ile Phe Val Val Arg
565 570 575

Phe Leu Phe Gly Leu Val Asn Gln Glu Arg Thr Ser Tyr Leu Glu Lys
580 585 590

Lys Leu Ser Cys Lys Ile Ser Gln Gln Ile Arg Leu Glu Leu Leu Lys
595 600 605

Trp Ile Glu Val Lys Ala Lys Ala Lys Lys Leu Gln Ile Gln Pro Ser
610 615 620

Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu Met Gln Glu Glu Asp Phe
625 630 635 640

Val Gln Arg Ala Met Asp Tyr Phe Pro Lys Ile Glu Ile Asn Leu Ser
645 650 655

Thr Arg Met Asp His Met Val Ser Ser Phe Cys Ile Glu Asn Cys His
660 665 670

Arg Val Glu Ser Leu Ser Leu Gly Phe Leu His Asn Met Pro Lys Glu
675 680 685

Glu Glu Glu Glu Glu Lys Glu Gly Arg His Leu Asp Met Val Gln Cys
690 695 700

Val Leu Pro Ser Ser Ser His Ala Ala Cys Ser His Gly Leu Gly Arg
705 710 715 720

Cys Gly Leu Ser His Glu Cys Cys Phe Asp Ile Ser Leu Val Leu Ser
725 730 735

Ser Asn Gln Lys Leu Val Glu Leu Asp Leu Ser Asp Asn Ala Leu Gly
740 745 750

Asp Phe Gly Ile Arg Leu Leu Cys Val Gly Leu Lys His Leu Leu Cys
755 760 765

Asn Leu Lys Lys Leu Trp Leu Val Ser Cys Cys Leu Thr Ser Ala Cys
770 775 780

Cys Gln Asp Leu Ala Ser Val Leu Ser Thr Ser His Ser Leu Thr Arg
785 790 795 800

Leu Tyr Val Gly Glu Asn Ala Leu Gly Asp Ser Gly Val Ala Ile Leu
805 810 815

Cys Glu Lys Ala Lys Asn Pro Gln Cys Asn Leu Gln Lys Leu Gly Leu
820 825 830

Val Asn Ser Gly Leu Thr Ser Val Cys Cys Ser Ala Leu Ser Ser Val
835 840 845

Leu Ser Thr Asn Gln Asn Leu Thr His Leu Tyr Leu Arg Gly Asn Thr
850 855 860

Leu Gly Asp Lys Gly Ile Lys Leu Leu Cys Glu Gly Leu Leu His Pro
865 870 875 880

Asp Cys Lys Leu Gln Val Leu Glu Leu Asp Asn Cys Asn Leu Thr Ser
885 890 895

His Cys Cys Trp Asp Leu Ser Thr Leu Leu Thr Ser Ser Gln Ser Leu
900 905 910

Arg Lys Leu Ser Leu Gly Asn Asn Asp Leu Gly Asp Leu Gly Val Met
 915 920 925

Met Phe Cys Glu Val Leu Lys Gln Gln Ser Cys Leu Leu Gln Asn Leu
 930 935 940

Gly Leu Ser Glu Met Tyr Phe Asn Tyr Glu Thr Lys Ser Ala Leu Glu
 945 950 955 960

Thr Leu Gln Glu Glu Lys Pro Glu Leu Thr Val Val Phe Glu Pro Ser
 965 970 975

Trp

<210> 150
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus Motif I

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (11)..(11)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (18)..(19)
 <223> "Xaa" denotes a basic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (20)..(21)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
 <221> MISC_FEATURE

<222> (23)..(23)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> "Xaa" denotes an aromatic amino acid residue.

<400> 150

Xaa Thr Val Val Leu Xaa Gly Xaa Ala Gly Xaa Gly Lys Thr Thr Leu
1 5 10 15

Ala Xaa Xaa Xaa Xaa Leu Xaa Trp Ala Xaa Gly Xaa Leu Xaa
20 25 30

<210> 151
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif II

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> "Xaa" denotes an aromatic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> "Xaa" denotes an aromatic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> "Xaa" denotes a hydrophobic amino acid residue.

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<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> "Xaa" denotes a basic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (13)..(18)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> "Xaa" denotes an acidic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (25)..(27)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> "Xaa" denotes an aromatic amino acid residue.

<400> 151

Phe Xaa Xaa Xaa Phe Xaa Xaa Xaa Cys Xaa Glu Xaa Xaa Xaa Xaa Xaa
1          5          10          15

Xaa Xaa Ser Xaa Xaa Xaa Leu Leu Xaa Xaa Xaa Xaa Pro
          20          25

<210> 152
<211> 19
<212> PRT
<213> Artificial Sequence

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<220>
<223> Consensus Motif III

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (4)..(5)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> "Xaa" denotes an acidic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<400> 152

Xaa	Leu	Xaa	Xaa	Xaa	Pro	Xaa	Arg	Leu	Leu	Phe	Leu	Xaa	Asp	Gly	Phe
1				5					10					15	

Asp Glu Leu

<210> 153
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif IV

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> "Xaa" denotes a basic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (9)..(9)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (20)..(20)

<223> "Xaa" denotes serine or threonine.

<220>

<221> MISC_FEATURE

<222> (23)..(23)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (25)..(25)

<223> "Xaa" denotes a hydrophobic amino acid residue.

<400> 153

Leu Leu Xaa Ser Leu Leu Xaa Lys Xaa Leu Leu Pro Glu Ala Ser Leu
1 5 10 15

Leu Leu Thr Xaa Arg Pro Xaa Ala Xaa
20 25

<210> 154

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus Motif V

<220>

<221> MISC_FEATURE

<222> (2)..(3)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>

<221> MISC_FEATURE

<222> (6)..(8)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> "Xaa" denotes a basic amino acid residue.

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> "Xaa" denotes any amino acid residue.


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<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (19)..(19)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> "Xaa" denotes an acidic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (21)..(22)
<223> "Xaa" denotes a basic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (23)..(24)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (27)..(28)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (29)..(29)
<223> "Xaa" denotes an aromatic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (31)..(31)
<223> "Xaa" denotes an acidic amino acid residue.

<400> 154

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Leu Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Phe
 1 5 10 15

Ser Glu Xaa Xaa Xaa Xaa Xaa Xaa Tyr Phe Xaa Xaa Xaa Xaa Xaa
 20 25 30

<210> 155
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus Motif VI

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> "Xaa" denotes a basic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (6)..(7)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> "Xaa" denotes a basic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (12)..(13)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (15)..(15)

<223> "Xaa" denotes an aromatic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (16)..(16)
 <223> "Xaa" denotes any amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (17)..(17)
 <223> "Xaa" denotes a hydrophobic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (19)..(19)
 <223> "Xaa" denotes any amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (22)..(22)
 <223> "Xaa" denotes any amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (23)..(23)
 <223> "Xaa" denotes a hydrophobic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (26)..(26)
 <223> "Xaa" denotes a hydrophobic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (29)..(29)
 <223> "Xaa" denotes serine or threonine.
 <220>
 <221> MISC_FEATURE
 <222> (30)..(30)
 <223> "Xaa" denotes any amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (32)..(32)
 <223> "Xaa" denotes a basic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (33)..(33)
 <223> "Xaa" denotes any amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (35)..(35)
 <223> "Xaa" denotes a hydrophobic amino acid residue.
 <220>
 <221> MISC_FEATURE
 <222> (36)..(36)
 <223> "Xaa" denotes an acidic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (37)..(37)
 <223> "Xaa" denotes any amino acid residue.

<400> 155

Ala	Xaa	Xaa	Ser	Xaa	Xaa	Xaa	Xaa	Xaa	Asn	Xaa	Xaa	Leu	Xaa	Xaa
1			5					10				15		

Xaa	Cys	Xaa	Val	Pro	Xaa	Xaa	Cys	Trp	Xaa	Val	Cys	Xaa	Xaa	Leu	Xaa
			20					25						30	

Xaa	Gln	Xaa	Xaa	Xaa	Gly
					35

<210> 156
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus Motif VII

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> "Xaa" denotes an aromatic amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (7)..(8)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> "Xaa" denotes an aromatic amino acid residue.

<220>
 <221> MISC_FEATURE

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<222> (10)..(10)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (11)..(13)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> "Xaa" denotes a hydrophobic acid residue.

<400> 156

Thr Xaa Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1          5          10

<210> 157
<211> 43
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif VIII

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> "Xaa" denotes a basic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (14)..(17)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (20)..(21)

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<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> "Xaa" denotes an acidic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (25)..(27)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (30)..(33)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (34)..(34)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (35)..(36)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (39)..(41)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (42)..(43)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<400> 157

Leu Xaa Xaa Leu Cys Xaa Leu Ala Ala Glu Gly Xaa Trp Xaa Xaa Xaa
1          5          10          15

Xaa Xaa Phe Xaa Xaa Xaa Asp Leu Xaa Xaa Xaa Gly Leu Xaa Xaa Xaa
20          25          30

Xaa Xaa Xaa Xaa Phe Leu Xaa Xaa Xaa Xaa Xaa
35          40

<210> 158
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif IX

<220>

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<221> MISC_FEATURE
<222> (2)..(2)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> "Xaa" denotes serine or threonine.

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> "Xaa" denotes an aromatic acid residue.

<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> "Xaa" denotes a hydrophobic acid residue.

<400> 158

Tyr Xaa Phe Xaa His Leu Xaa Xaa Gln Glu Phe Xaa Ala Ala Xaa Xaa
1          5              10              15

Tyr Xaa Leu

<210> 159
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif X

<220>
<221> MISC_FEATURE
<222> (7)..(7)

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<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> "Xaa" denotes any amino acid residue and is variable in length.

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> "Xaa" denotes a basic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (15)..(16)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (19)..(20)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (23)..(24)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> "Xaa" denotes a basic amino acid residue.

<400> 159

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Phe Leu Phe Gly Leu Leu Xaa Xaa Asn Xaa Xaa Xaa Leu Glu Xaa Xaa
1           5           10           15

```

```

Phe Ser Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa
          20           25

```


<210> 160
 <211> 28
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Consensus Motif XI

 <220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> "Xaa" denotes an acidic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> "Xaa" denotes any amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> "Xaa" denotes an aromatic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> "Xaa" denotes an acidic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> "Xaa" denotes any amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (13)..(13)
 <223> "Xaa" denotes any amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (14)..(14)
 <223> "Xaa" denotes an acidic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (16)..(16)
 <223> "Xaa" denotes a hydrophobic amino acid residue.

 <220>
 <221> MISC_FEATURE
 <222> (17)..(19)
 <223> "Xaa" denotes any amino acid residue.

 <220>

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<221> MISC_FEATURE
<222> (20)..(20)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (21)..(25)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<400> 160

Xaa Xaa Leu Phe Xaa Cys Leu Arg Ala Xaa Gln Glu Xaa Ala Phe His
1           5           10           15

Xaa Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His Xaa His
          20           25

<210> 161
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus Motif XII

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> "Xaa" denotes an acidic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (2)..(3)
<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> "Xaa" denotes any amino acid residue.

<220>
<221> MISC_FEATURE
<222> (6)..(6)

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<223> "Xaa" denotes serine or threonine.

<220>

<221> MISC_FEATURE

<222> (10)..(11)

<223> "Xaa" denotes a basic amino acid residue.

<220>

<221> MISC_FEATURE

<222> (13)..(14)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (15)..(15)

<223> "Xaa" denotes a hydrophobic amino acid residue.

<220>

<221> MISC_FEATURE

<222> (16)..(17)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (19)..(19)

<223> "Xaa" denotes any amino acid residue.

<400> 161

Xaa Xaa Xaa Val Xaa Xaa Phe Cys Leu Xaa Xaa Cys Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Leu Xaa Leu
20

<210> 162

<211> 479

<212> PRT

<213> Homo sapiens

<400> 162

Met Glu Leu Leu Phe Asp Pro Asp Asp Glu His Ser Glu Pro Val His
1 5 10 15

Thr Val Val Phe Gln Gly Ala Ala Gly Ile Gly Lys Thr Ile Leu Ala
20 25 30

Arg Lys Met Met Leu Asp Trp Ala Ser Gly Thr Leu Tyr Gln Asp Arg
35 40 45

Phe Asp Tyr Leu Phe Tyr Ile His Cys Arg Glu Val Ser Leu Val Thr
50 55 60

Gln Arg Ser Leu Gly Asp Leu Ile Met Ser Cys Cys Pro Asp Pro Asn

65					70					75				80	
Pro	Pro	Ile	His	Lys	Ile	Val	Arg	Lys	Pro	Ser	Arg	Ile	Leu	Phe	Leu
				85					90					95	
Met	Asp	Gly	Phe	Asp	Glu	Leu	Gln	Gly	Ala	Phe	Asp	Glu	His	Ile	Gly
			100					105					110		
Pro	Leu	Cys	Thr	Asp	Trp	Gln	Lys	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Leu
		115					120					125			
Ser	Ser	Leu	Ile	Arg	Lys	Lys	Leu	Leu	Pro	Glu	Ala	Ser	Leu	Leu	Ile
	130					135					140				
Thr	Thr	Arg	Pro	Val	Ala	Leu	Glu	Lys	Leu	Gln	His	Leu	Leu	Asp	His
145					150					155					160
Pro	Arg	His	Val	Glu	Ile	Leu	Gly	Phe	Ser	Glu	Ala	Lys	Arg	Lys	Glu
				165					170					175	
Tyr	Phe	Phe	Lys	Tyr	Phe	Ser	Asp	Glu	Ala	Gln	Ala	Arg	Ala	Ala	Phe
			180					185					190		
Ser	Leu	Ile	Gln	Glu	Asn	Glu	Val	Leu	Phe	Thr	Met	Cys	Phe	Ile	Pro
		195					200					205			
Leu	Val	Cys	Trp	Ile	Val	Cys	Thr	Gly	Leu	Lys	Gln	Gln	Met	Glu	Ser
	210					215					220				
Gly	Lys	Ser	Leu	Ala	Gln	Thr	Ser	Lys	Thr	Ser	Thr	Ala	Val	Tyr	Val
225					230					235					240
Phe	Phe	Leu	Ser	Ser	Leu	Leu	Gln	Pro	Arg	Gly	Gly	Ser	Gln	Glu	His
				245					250					255	
Gly	Leu	Cys	Ala	His	Leu	Trp	Gly	Leu	Cys	Ser	Leu	Ala	Ala	Asp	Gly
			260				265						270		
Ile	Trp	Asn	Gln	Lys	Ile	Leu	Phe	Glu	Glu	Ser	Asp	Leu	Arg	Asn	His
		275					280					285			
Gly	Leu	Gln	Lys	Ala	Asp	Val	Ser	Ala	Phe	Leu	Arg	Met	Asn	Leu	Phe
	290					295					300				
Gln	Lys	Glu	Val	Asp	Cys	Glu	Lys	Phe	Tyr	Ser	Phe	Ile	His	Met	Thr
305					310					315					320

Phe Gln Glu Phe Phe Ala Ala Met Tyr Tyr Leu Leu Glu Glu Glu Lys
325 330 335

Glu Gly Arg Thr Asn Val Pro Gly Ser Arg Leu Lys Leu Pro Ser Arg
340 345 350

Asp Val Thr Val Leu Leu Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr
355 360 365

Leu Ile Phe Val Val Arg Phe Leu Phe Gly Leu Val Asn Gln Glu Arg
370 375 380

Thr Ser Tyr Leu Glu Lys Lys Leu Ser Cys Met Ile Ser Gln Gln Ile
385 390 395 400

Arg Leu Glu Leu Leu Lys Trp Ile Glu Val Lys Ala Lys Ala Lys Lys
405 410 415

Leu His Asp Gln Pro Ser Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu
420 425 430

Met Gln Glu Glu Asp Phe Val Gln Arg Ala Met Asp Tyr Phe Pro Lys
435 440 445

Ile Glu Ile Asn Leu Ser Thr Arg Met Asp His Met Val Ser Ser Phe
450 455 460

Cys Ile Glu Asn Cys His Arg Val Glu Ser Leu Ser Leu Gly Phe
465 470 475

<210> 163
<211> 472
<212> PRT
<213> Homo sapiens

<400> 163

Ile Glu Thr Leu Phe Glu Pro Asp Glu Glu Arg Pro Glu Pro Pro Arg
1 5 10 15

Thr Val Val Met Gln Gly Ala Ala Gly Ile Gly Lys Ser Met Leu Ala
20 25 30

His Lys Val Met Leu Asp Trp Ala Asp Gly Lys Leu Phe Gln Gly Arg
35 40 45

Phe Asp Tyr Leu Phe Tyr Ile Asn Cys Arg Glu Met Asn Gln Ser Ala
 50 55 60

Thr Glu Cys Ser Met Gln Asp Leu Ile Phe Ser Cys Trp Pro Glu Pro
 65 70 75 80

Ser Ala Pro Leu Gln Glu Leu Ile Arg Val Pro Glu Arg Leu Leu Phe
 85 90 95

Ile Ile Asp Gly Phe Asp Glu Leu Lys Pro Ser Phe His Asp Pro Gln
 100 105 110

Gly Pro Trp Cys Leu Cys Trp Glu Glu Lys Arg Pro Thr Glu Leu Leu
 115 120 125

Leu Asn Ser Leu Ile Arg Lys Lys Leu Leu Pro Glu Leu Ser Leu Leu
 130 135 140

Ile Thr Thr Arg Pro Thr Ala Leu Glu Lys Leu His Arg Leu Leu Glu
 145 150 155 160

His Pro Arg His Val Glu Ile Leu Gly Phe Ser Glu Ala Glu Arg Lys
 165 170 175

Glu Tyr Phe Tyr Lys Tyr Phe His Asn Ala Glu Gln Ala Gly Gln Val
 180 185 190

Phe Asn Tyr Val Arg Asp Asn Glu Pro Leu Phe Thr Met Cys Phe Val
 195 200 205

Pro Leu Val Cys Trp Val Val Cys Thr Cys Leu Gln Gln Gln Leu Glu
 210 215 220

Gly Gly Gly Leu Leu Arg Gln Thr Ser Arg Thr Thr Thr Ala Val Tyr
 225 230 235 240

Met Leu Tyr Leu Leu Ser Leu Met Gln Pro Lys Pro Gly Ala Pro Arg
 245 250 255

Leu Gln Pro Pro Pro Asn Gln Arg Gly Leu Cys Ser Leu Ala Ala Asp
 260 265 270

Gly Leu Trp Asn Gln Lys Ile Leu Phe Glu Glu Gln Asp Leu Arg Lys
 275 280 285

His Gly Leu Asp Gly Glu Asp Val Ser Ala Phe Leu Asn Met Asn Ile

290

295

300

Phe Gln Lys Asp Ile Asn Cys Glu Arg Tyr Tyr Ser Phe Ile His Leu
 305 310 315 320

Ser Phe Gln Glu Phe Phe Ala Ala Met Tyr Tyr Ile Leu Asp Glu Gly
 325 330 335

Glu Gly Gly Ala Gly Pro Asp Gln Asp Val Thr Arg Leu Leu Thr Glu
 340 345 350

Tyr Ala Phe Ser Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu
 355 360 365

Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu
 370 375 380

Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile
 385 390 395 400

Gln Ser Lys Ala Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu
 405 410 415

Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu Phe Ile Gln
 420 425 430

Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser
 435 440 445

Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser
 450 455 460

Ala Gln Val Leu His Leu Tyr Gly
 465 470

<210> 164

<211> 468

<212> PRT

<213> Homo sapiens

<400> 164

Glu Tyr Lys Glu Leu Asn Asp Ala Tyr Thr Ala Ala Ala Arg Arg His
 1 5 10 15

Thr Val Val Leu Glu Gly Pro Asp Gly Ile Gly Lys Thr Thr Leu Leu
 20 25 30

Arg Lys Val Met Leu Asp Trp Ala Glu Gly Asn Leu Trp Lys Asp Arg
 35 40 45

Phe Thr Phe Val Phe Phe Leu Asn Val Cys Glu Met Asn Gly Ile Ala
 50 55 60

Glu Thr Ser Leu Leu Glu Leu Leu Ser Arg Asp Trp Pro Glu Ser Ser
 65 70 75 80

Glu Lys Ile Glu Asp Ile Phe Ser Gln Pro Glu Arg Ile Leu Phe Ile
 85 90 95

Met Asp Gly Phe Glu Gln Leu Lys Phe Asn Leu Gln Leu Lys Ala Asp
 100 105 110

Leu Ser Asp Asp Trp Arg Gln Arg Gln Pro Met Pro Ile Ile Leu Ser
 115 120 125

Ser Leu Leu Gln Lys Lys Met Leu Pro Glu Ser Ser Leu Leu Ile Ala
 130 135 140

Leu Gly Lys Leu Ala Met Gln Lys His Tyr Phe Met Leu Arg His Pro
 145 150 155 160

Lys Leu Ile Lys Leu Leu Gly Phe Ser Glu Ser Glu Lys Lys Ser Tyr
 165 170 175

Phe Ser Tyr Phe Phe Gly Glu Lys Ser Lys Ala Leu Lys Val Phe Asn
 180 185 190

Phe Val Arg Asp Asn Gly Pro Leu Phe Ile Leu Cys His Asn Pro Phe
 195 200 205

Thr Cys Trp Leu Val Cys Thr Cys Val Lys Gln Arg Leu Glu Arg Gly
 210 215 220

Glu Asp Leu Glu Ile Asn Ser Gln Asn Thr Thr Tyr Leu Tyr Ala Ser
 225 230 235 240

Phe Leu Thr Thr Val Phe Lys Ala Gly Ser Gln Ser Phe Pro Pro Lys
 245 250 255

Val Asn Arg Ala Arg Leu Lys Ser Leu Cys Ala Leu Ala Ala Glu Gly
 260 265 270

Ile Trp Thr Tyr Thr Phe Val Phe Ser His Gly Asp Leu Arg Arg Asn
 275 280 285

Gly Leu Ser Glu Ser Glu Gly Val Met Trp Val Gly Met Arg Leu Leu
 290 295 300

Gln Arg Arg Gly Asp Cys Phe Ala Phe Met His Leu Cys Ile Gln Glu
 305 310 315 320

Phe Cys Ala Ala Met Phe Tyr Leu Leu Lys Arg Pro Lys Asp Asp Pro
 325 330 335

Asn Pro Ala Ile Gly Ser Ile Thr Gln Leu Val Arg Ala Ser Val Val
 340 345 350

Gln Pro Gln Thr Leu Leu Thr Gln Val Gly Ile Phe Met Phe Gly Ile
 355 360 365

Ser Thr Glu Glu Ile Val Ser Met Leu Glu Thr Ser Phe Gly Phe Pro
 370 375 380

Leu Ser Lys Asp Leu Lys Gln Glu Ile Thr Gln Cys Leu Glu Ser Leu
 385 390 395 400

Ser Gln Cys Glu Ala Asp Arg Glu Ala Ile Ala Phe Gln Glu Leu Phe
 405 410 415

Ile Gly Leu Phe Glu Thr Gln Glu Lys Glu Phe Val Thr Lys Val Met
 420 425 430

Asn Phe Phe Glu Glu Val Phe Ile Tyr Ile Gly Asn Ile Glu His Leu
 435 440 445

Val Ile Ala Ser Phe Cys Leu Lys His Cys Gln His Leu Thr Thr Leu
 450 455 460

Arg Met Cys Val
 465

<210> 165
 <211> 297
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (74)..(74)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (136)..(136)

<223> "Xaa" denotes any amino acid residue.

<220>

<221> MISC_FEATURE

<222> (232)..(232)

<223> "Xaa" denotes any amino acid residue.

<400> 165

His	Phe	Phe	Pro	Gln	Pro	Glu	Gln	Ile	Leu	Phe	Ile	Met	Asp	Gly	Phe
1				5					10					15	

Glu	Gln	Leu	Lys	Phe	Asp	Leu	Glu	Leu	Lys	Ala	Asp	Leu	Cys	Asp	Asp
			20					25					30		

Trp	Arg	Gln	Gln	Gln	Pro	Thr	Gln	Ile	Ile	Leu	Ser	Ser	Leu	Leu	Gln
		35					40					45			

Lys	Lys	Met	Ile	Pro	Glu	Ser	Ser	Leu	Leu	Ile	Ala	Leu	Gly	Lys	Val
	50					55					60				

Gly	Met	Gln	Lys	Asn	Tyr	Phe	Met	Leu	Xaa	His	Pro	Lys	Leu	Ile	Lys
65					70					75					80

Leu	Pro	Gly	Phe	Thr	Glu	Leu	Glu	Arg	Lys	Leu	Tyr	Phe	Ser	Tyr	Phe
				85					90					95	

Phe	Ser	Glu	Lys	Asn	Thr	Phe	Ile	His	Leu	Leu	Lys	Met	Asn	Ala	Ser
			100					105						110	

Phe	Leu	Thr	Asn	Val	Phe	Lys	Ala	Gly	Ser	Gln	Ser	Phe	Pro	Pro	Lys
		115					120					125			

Gly	Met	Lys	Leu	Leu	Gln	Arg	Xaa	Gly	Glu	Cys	Phe	Thr	Phe	Ile	His
	130					135					140				

Val	Cys	Ile	Gln	Glu	Phe	Cys	Ala	Thr	Met	Phe	Tyr	Leu	Leu	Lys	Arg
145					150					155					160

Pro	Lys	Asp	Asp	Pro	Asn	Pro	Thr	Ile	Gly	Ser	Ile	Thr	Gln	Leu	Val
				165					170					175	

Arg	Ala	Ser	Val	Ala	Gln	Pro	Gln	Thr	His	Ser	Thr	Gln	Val	Gly	Val
			180					185					190		

Phe Val Phe Gly Ile Ser Thr Glu Glu Ile Ile Ser Leu Leu Glu Thr
 195 200 205

Ser Phe Gly Phe Pro Leu Leu Lys Asp Leu Lys Lys Glu Ile Thr Gln
 210 215 220

Cys Leu Lys Ser Leu Ser Gln Xaa Glu Ala Asp Arg Glu Val Ile Gly
 225 230 235 240

Phe Gln Glu Leu Phe His Asp Leu Phe Ala Thr Gln Glu Lys Glu Phe
 245 250 255

Val Thr Glu Val Ile Asn Phe Phe Glu Glu Val Phe Ile Cys Thr Gly
 260 265 270

Asn Ile Glu His Leu Val Val Ser Ser Phe Cys Arg Lys His Cys Gln
 275 280 285

Asn Leu Thr Thr Leu Arg Met Cys Val
 290 295

<210> 166
 <211> 458
 <212> PRT
 <213> Homo sapiens

<400> 166

Ile Arg Asp Leu Phe Gly Pro Gly Leu Asp Thr Gln Glu Pro Arg Ile
 1 5 10 15

Val Ile Leu Gln Gly Ala Ala Gly Ile Gly Lys Ser Thr Leu Ala Arg
 20 25 30

Gln Val Lys Glu Ala Trp Gly Arg Gly Gln Leu Tyr Gly Asp Arg Phe
 35 40 45

Gln His Val Phe Tyr Phe Ser Cys Arg Glu Leu Ala Gln Ser Lys Val
 50 55 60

Val Ser Leu Ala Glu Leu Ile Gly Lys Asp Gly Thr Ala Thr Pro Ala
 65 70 75 80

Pro Ile Arg Gln Ile Leu Ser Arg Pro Glu Arg Leu Leu Phe Ile Leu
 85 90 95

Asp Gly Val Asp Glu Pro Gly Trp Val Leu Gln Glu Pro Ser Ser Glu

100

105

110

Leu Cys Leu His Trp Ser Gln Pro Gln Pro Ala Asp Ala Leu Leu Gly
 115 120 125

Ser Leu Leu Gly Lys Thr Ile Leu Pro Glu Ala Ser Phe Leu Ile Thr
 130 135 140

Ala Arg Thr Thr Ala Leu Gln Asn Leu Ile Pro Ser Leu Glu Gln Ala
 145 150 155 160

Arg Trp Val Glu Val Leu Gly Phe Ser Glu Ser Ser Arg Lys Glu Tyr
 165 170 175

Phe Tyr Arg Tyr Phe Thr Asp Glu Arg Gln Ala Ile Arg Ala Phe Arg
 180 185 190

Leu Val Lys Ser Asn Lys Glu Leu Trp Ala Leu Cys Leu Val Pro Trp
 195 200 205

Val Ser Trp Leu Ala Cys Thr Cys Leu Met Gln Gln Met Lys Arg Lys
 210 215 220

Glu Lys Leu Thr Leu Thr Ser Lys Thr Thr Thr Thr Leu Cys Leu His
 225 230 235 240

Tyr Leu Ala Gln Ala Leu Gln Ala Gln Pro Leu Gly Pro Gln Leu Arg
 245 250 255

Asp Leu Cys Ser Leu Ala Ala Glu Gly Ile Trp Gln Lys Lys Thr Leu
 260 265 270

Phe Ser Pro Asp Asp Leu Arg Lys His Gly Leu Asp Gly Ala Ile Ile
 275 280 285

Ser Thr Phe Leu Lys Met Gly Ile Leu Gln Glu His Pro Ile Pro Leu
 290 295 300

Ser Tyr Ser Phe Ile His Leu Cys Phe Gln Glu Phe Phe Ala Ala Met
 305 310 315 320

Ser Tyr Val Leu Glu Asp Glu Lys Gly Arg Gly Lys His Ser Asn Cys
 325 330 335

Ile Ile Asp Leu Glu Lys Thr Leu Glu Ala Tyr Gly Ile His Gly Leu
 340 345 350

Phe Gly Ala Ser Thr Thr Arg Phe Leu Leu Gly Leu Leu Ser Asp Glu
355 360 365

Gly Glu Arg Glu Met Glu Asn Ile Phe His Cys Arg Leu Ser Gln Gly
370 375 380

Arg Asn Leu Met Gln Trp Val Pro Ser Leu Gln Leu Leu Leu Gln Pro
385 390 395 400

His Ser Leu Glu Ser Leu His Cys Leu Tyr Glu Thr Arg Asn Lys Thr
405 410 415

Phe Leu Thr Gln Val Met Ala His Phe Glu Glu Met Gly Met Cys Val
420 425 430

Glu Thr Asp Met Glu Leu Leu Val Cys Thr Phe Cys Ile Lys Phe Ser
435 440 445

Arg His Val Lys Lys Leu Gln Leu Ile Glu
450 455

<210> 167
<211> 474
<212> PRT
<213> Homo sapiens

<400> 167

Leu Glu His Leu Phe Asp Val Asp Val Lys Thr Gly Ala Gln Pro Gln
1 5 10 15

Ile Val Val Leu Gln Gly Ala Ala Gly Val Gly Lys Thr Thr Leu Val
20 25 30

Arg Lys Ala Met Leu Asp Trp Ala Glu Gly Ser Leu Tyr Gln Gln Arg
35 40 45

Phe Lys Tyr Val Phe Tyr Leu Asn Gly Arg Glu Ile Asn Gln Leu Lys
50 55 60

Glu Arg Ser Phe Ala Gln Leu Ile Ser Lys Asp Trp Pro Ser Thr Glu
65 70 75 80

Gly Pro Ile Glu Glu Ile Met Tyr Gln Pro Ser Ser Leu Leu Phe Ile
85 90 95

Ile Asp Ser Phe Asp Glu Leu Asn Phe Ala Phe Glu Glu Pro Glu Phe
 100 105 110

Ala Leu Cys Glu Asp Trp Thr Gln Glu His Pro Val Ser Phe Leu Met
 115 120 125

Ser Ser Leu Leu Arg Lys Val Met Leu Pro Glu Ala Ser Leu Leu Val
 130 135 140

Thr Thr Arg Leu Thr Thr Ser Lys Arg Leu Lys Gln Leu Leu Lys Asn
 145 150 155 160

His His Tyr Val Glu Leu Leu Gly Met Ser Glu Asp Ala Arg Glu Glu
 165 170 175

Tyr Ile Tyr Gln Phe Phe Glu Asp Lys Arg Trp Ala Met Lys Val Phe
 180 185 190

Ser Ser Leu Lys Ser Asn Glu Met Leu Phe Ser Met Cys Gln Val Pro
 195 200 205

Leu Val Cys Trp Ala Ala Cys Thr Cys Leu Lys Gln Gln Met Glu Lys
 210 215 220

Gly Gly Asp Val Thr Leu Thr Cys Gln Thr Thr Thr Ala Leu Phe Thr
 225 230 235 240

Cys Tyr Ile Ser Ser Leu Phe Thr Pro Val Asp Gly Gly Ser Pro Ser
 245 250 255

Leu Pro Asn Gln Ala Gln Leu Arg Arg Leu Cys Gln Val Ala Ala Lys
 260 265 270

Gly Ile Trp Thr Met Thr Tyr Val Phe Tyr Arg Glu Asn Leu Arg Arg
 275 280 285

Leu Gly Leu Thr Gln Ser Asp Val Ser Ser Phe Met Asp Ser Asn Ile
 290 295 300

Ile Gln Lys Asp Ala Glu Tyr Glu Asn Cys Tyr Val Phe Thr His Leu
 305 310 315 320

His Val Gln Glu Phe Phe Ala Ala Met Phe Tyr Met Leu Lys Gly Ser
 325 330 335

Trp Glu Ala Gly Asn Pro Ser Cys Gln Pro Phe Glu Asp Leu Lys Ser

340

345

350

Leu Leu Gln Ser Thr Ser Tyr Lys Asp Pro His Leu Thr Gln Met Lys
 355 360 365

Cys Phe Leu Phe Gly Leu Leu Asn Glu Asp Arg Val Lys Gln Leu Glu
 370 375 380

Arg Thr Phe Asn Cys Lys Met Ser Leu Lys Ile Lys Ser Lys Leu Leu
 385 390 395 400

Gln Cys Met Glu Val Leu Gly Asn Ser Asp Tyr Ser Pro Ser Gln Leu
 405 410 415

Gly Phe Leu Glu Leu Phe His Cys Leu Tyr Glu Thr Gln Asp Lys Ala
 420 425 430

Phe Ile Ser Gln Ala Met Arg Cys Phe Pro Lys Val Ala Ile Asn Ile
 435 440 445

Cys Glu Lys Ile His Leu Leu Val Ser Ser Phe Cys Leu Lys His Cys
 450 455 460

Arg Cys Leu Arg Thr Ile Arg Leu Ser Val
 465 470

<210> 168
 <211> 472
 <212> PRT
 <213> Homo sapiens

<400> 168

Leu Asp Arg Leu Phe Ala Pro Lys Glu Thr Gly Lys Gln Pro Arg Thr
 1 5 10 15

Val Ile Ile Gln Gly Pro Gln Gly Ile Gly Lys Thr Thr Leu Leu Met
 20 25 30

Lys Leu Met Met Ala Trp Ser Asp Asn Lys Ile Phe Arg Asp Arg Phe
 35 40 45

Leu Tyr Thr Phe Tyr Phe Cys Cys Arg Glu Leu Arg Glu Leu Pro Pro
 50 55 60

Thr Ser Leu Ala Asp Leu Ile Ser Arg Glu Trp Pro Asp Pro Ala Ala
 65 70 75 80

Pro Ile Thr Glu Ile Val Ser Gln Pro Glu Arg Leu Leu Phe Val Ile
 85 90 95

Asp Ser Phe Glu Glu Leu Gln Gly Gly Leu Asn Glu Pro Asp Ser Asp
 100 105 110

Leu Cys Gly Asp Leu Met Glu Lys Arg Pro Val Gln Val Leu Leu Ser
 115 120 125

Ser Leu Leu Arg Lys Lys Met Leu Pro Glu Ala Ser Leu Leu Ile Ala
 130 135 140

Ile Lys Pro Val Cys Pro Lys Glu Leu Arg Asp Gln Val Thr Ile Ser
 145 150 155 160

Glu Ile Tyr Gln Pro Arg Gly Phe Asn Glu Ser Asp Arg Leu Val Tyr
 165 170 175

Phe Cys Cys Phe Phe Lys Asp Pro Lys Arg Ala Met Glu Ala Phe Asn
 180 185 190

Leu Val Arg Glu Ser Glu Gln Leu Phe Ser Ile Cys Gln Ile Pro Leu
 195 200 205

Leu Cys Trp Ile Leu Cys Thr Ser Leu Lys Gln Glu Met Gln Lys Gly
 210 215 220

Lys Asp Leu Ala Leu Thr Cys Gln Ser Thr Thr Ser Val Tyr Ser Ser
 225 230 235 240

Phe Val Phe Asn Leu Phe Thr Pro Glu Gly Ala Glu Gly Pro Thr Pro
 245 250 255

Gln Thr Gln His Gln Leu Lys Ala Leu Cys Ser Leu Ala Ala Glu Gly
 260 265 270

Met Trp Thr Asp Thr Phe Glu Phe Cys Glu Asp Asp Leu Arg Arg Asn
 275 280 285

Gly Val Val Asp Ala Asp Ile Pro Ala Leu Leu Gly Thr Lys Ile Leu
 290 295 300

Leu Lys Tyr Gly Glu Arg Glu Ser Ser Tyr Val Phe Leu His Val Cys
 305 310 315 320

Ile Gln Glu Phe Cys Ala Ala Leu Phe Tyr Leu Leu Lys Ser His Leu
 325 330 335

Asp His Pro His Pro Ala Val Arg Cys Val Gln Glu Leu Leu Val Ala
 340 345 350

Asn Phe Glu Lys Ala Arg Arg Ala His Trp Ile Phe Leu Gly Cys Phe
 355 360 365

Leu Thr Gly Leu Leu Asn Lys Lys Glu Gln Glu Lys Leu Asp Ala Phe
 370 375 380

Phe Gly Phe Gln Leu Ser Gln Glu Ile Lys Gln Gln Ile His Gln Cys
 385 390 395 400

Leu Lys Ser Leu Gly Glu Arg Gly Asn Pro Gln Gly Gln Val Asp Ser
 405 410 415

Leu Ala Ile Phe Tyr Cys Leu Phe Glu Met Gln Asp Pro Ala Phe Val
 420 425 430

Lys Gln Ala Val Asn Leu Leu Gln Glu Ala Asn Phe His Ile Ile Asp
 435 440 445

Asn Val Asp Leu Val Val Ser Ala Tyr Cys Leu Lys Tyr Cys Ser Ser
 450 455 460

Leu Arg Lys Leu Cys Phe Ser Val
 465 470

<210> 169
 <211> 477
 <212> PRT
 <213> Homo sapiens

<400> 169

Leu Gln Arg Leu Leu Asp Pro Asn Arg Thr Arg Ala Gln Ala Gln Thr
 1 5 10 15

Ile Val Leu Val Gly Arg Ala Gly Val Gly Lys Thr Thr Leu Ala Met
 20 25 30

Arg Ala Met Leu His Trp Ala Asn Gly Val Leu Phe Gln Gln Arg Phe
 35 40 45

Ser Tyr Val Phe Tyr Leu Ser Cys His Lys Ile Arg Tyr Met Lys Glu
 50 55 60

Thr Thr Phe Ala Glu Leu Ile Ser Leu Asp Trp Pro Asp Phe Asp Ala
65 70 75 80

Pro Ile Glu Glu Phe Met Ser Gln Pro Glu Lys Leu Leu Phe Ile Ile
85 90 95

Asp Gly Phe Glu Glu Ile Ile Ile Ser Glu Ser Arg Ser Glu Ser Leu
100 105 110

Asp Asp Gly Ser Pro Cys Thr Asp Trp Tyr Gln Glu Leu Pro Val Thr
115 120 125

Lys Ile Leu His Ser Leu Leu Lys Lys Glu Leu Val Pro Leu Ala Thr
130 135 140

Leu Leu Ile Thr Ile Lys Thr Trp Phe Val Arg Asp Leu Lys Ala Ser
145 150 155 160

Leu Val Asn Pro Cys Phe Val Gln Ile Thr Gly Phe Thr Gly Asp Asp
165 170 175

Leu Arg Val Tyr Phe Met Arg His Phe Asp Asp Ser Ser Glu Val Glu
180 185 190

Lys Ile Leu Gln Gln Leu Arg Lys Asn Glu Thr Leu Phe His Ser Cys
195 200 205

Ser Ala Pro Met Val Cys Trp Thr Val Cys Ser Cys Leu Lys Gln Pro
210 215 220

Lys Val Arg Tyr Tyr Asp Leu Gln Ser Ile Thr Gln Thr Thr Thr Ser
225 230 235 240

Leu Tyr Ala Tyr Phe Phe Ser Asn Leu Phe Ser Thr Ala Glu Val Asp
245 250 255

Leu Ala Asp Asp Ser Trp Pro Gly Gln Trp Arg Ala Leu Cys Ser Leu
260 265 270

Ala Ile Glu Gly Leu Trp Ser Met Asn Phe Thr Phe Asn Lys Glu Asp
275 280 285

Thr Glu Ile Glu Gly Leu Glu Val Pro Phe Ile Asp Ser Leu Tyr Glu
290 295 300

Phe Asn Ile Leu Gln Lys Ile Asn Asp Cys Gly Gly Cys Thr Thr Phe
 305 310 315 320

Thr His Leu Ser Phe Gln Glu Phe Phe Ala Ala Met Ser Phe Val Leu
 325 330 335

Glu Glu Pro Arg Glu Phe Pro Pro His Ser Thr Lys Pro Gln Glu Met
 340 345 350

Lys Met Leu Leu Gln His Val Leu Leu Asp Lys Glu Ala Tyr Trp Thr
 355 360 365

Pro Val Val Leu Phe Phe Phe Gly Leu Leu Asn Lys Asn Ile Ala Arg
 370 375 380

Glu Leu Glu Asp Thr Leu His Cys Lys Ile Ser Pro Arg Val Met Glu
 385 390 395 400

Glu Leu Leu Lys Trp Gly Glu Glu Leu Gly Lys Ala Glu Ser Ala Ser
 405 410 415

Leu Gln Phe His Ile Leu Arg Leu Phe His Cys Leu His Glu Ser Gln
 420 425 430

Glu Glu Asp Phe Thr Lys Lys Met Leu Gly Arg Ile Phe Glu Val Asp
 435 440 445

Leu Asn Ile Leu Glu Asp Glu Glu Leu Gln Ala Ser Ser Phe Cys Leu
 450 455 460

Lys His Cys Lys Arg Leu Asn Lys Leu Arg Leu Ser Val
 465 470 475

<210> 170
 <211> 473
 <212> PRT
 <213> Homo sapiens

<400> 170

Leu Pro Cys Leu Leu Leu Pro Lys Arg Pro Gln Gly Arg Gln Pro Lys
 1 5 10 15

Thr Val Ala Ile Gln Gly Ala Pro Gly Ile Gly Lys Thr Ile Leu Ala
 20 25 30

Lys Lys Val Met Phe Glu Trp Ala Arg Asn Lys Phe Tyr Ala His Lys

35

40

45

Arg Trp Cys Ala Phe Tyr Phe His Cys Gln Glu Val Asn Gln Thr Thr
50 55 60

Asp Gln Ser Phe Ser Glu Leu Ile Glu Gln Lys Trp Pro Gly Ser Gln
65 70 75 80

Asp Leu Val Ser Lys Ile Met Ser Lys Pro Asp Gln Leu Leu Leu Leu
85 90 95

Leu Asp Gly Phe Glu Glu Leu Thr Ser Thr Leu Ile Asp Arg Leu Glu
100 105 110

Asp Leu Ser Glu Asp Trp Arg Gln Lys Leu Pro Gly Ser Val Leu Leu
115 120 125

Ser Ser Leu Leu Ser Lys Thr Met Leu Pro Glu Ala Thr Leu Leu Ile
130 135 140

Met Ile Arg Phe Thr Ser Trp Gln Thr Cys Lys Pro Leu Leu Lys Cys
145 150 155 160

Pro Ser Leu Val Thr Leu Pro Gly Phe Asn Thr Met Glu Lys Ile Lys
165 170 175

Tyr Phe Gln Met Tyr Phe Gly His Thr Glu Glu Gly Asp Gln Val Leu
180 185 190

Ser Phe Ala Met Glu Asn Thr Ile Leu Phe Ser Met Cys Arg Val Pro
195 200 205

Val Val Cys Trp Met Val Cys Ser Gly Leu Lys Gln Gln Met Glu Arg
210 215 220

Gly Asn Asn Leu Thr Gln Ser Cys Pro Asn Ala Thr Ser Val Phe Val
225 230 235 240

Arg Tyr Ile Ser Ser Leu Phe Pro Thr Arg Ala Glu Asn Phe Ser Arg
245 250 255

Lys Ile His Gln Ala Gln Leu Glu Gly Leu Cys His Leu Ala Ala Asp
260 265 270

Ser Met Trp His Arg Lys Trp Val Leu Gly Lys Glu Asp Leu Glu Glu
275 280 285

Ala Lys Leu Asp Gln Thr Gly Val Thr Ala Phe Leu Gly Met Ser Ile
 290 295 300

Leu Arg Arg Ile Ala Gly Glu Glu Asp His Tyr Val Phe Thr Leu Val
 305 310 315 320

Thr Phe Gln Glu Phe Phe Ala Ala Leu Phe Tyr Val Leu Cys Phe Pro
 325 330 335

Gln Arg Leu Lys Asn Phe His Val Leu Ser His Val Asn Ile Gln Arg
 340 345 350

Leu Ile Ala Ser Pro Arg Gly Ser Lys Ser Tyr Leu Ser His Met Gly
 355 360 365

Leu Phe Leu Phe Gly Phe Leu Asn Glu Ala Cys Ala Ser Ala Val Glu
 370 375 380

Gln Ser Phe Gln Cys Lys Val Ser Phe Gly Asn Lys Arg Lys Leu Leu
 385 390 395 400

Lys Val Ile Pro Leu Leu His Lys Cys Asp Pro Pro Ser Pro Gly Ser
 405 410 415

Gly Val Pro Gln Leu Phe Tyr Cys Leu His Glu Ile Arg Glu Glu Ala
 420 425 430

Phe Val Ser Gln Ala Leu Asn Asp Tyr His Lys Val Val Leu Arg Ile
 435 440 445

Gly Asn Asn Lys Glu Val Gln Val Ser Ala Phe Cys Leu Lys Arg Cys
 450 455 460

Gln Tyr Leu His Glu Val Glu Leu Thr
 465 470

<210> 171
 <211> 470
 <212> PRT
 <213> Homo sapiens

<400> 171

Val Glu Ala Leu Phe Asp Ser Gly Glu Lys Pro Ser Leu Ala Pro Ser
 1 5 10 15

Leu Val Val Leu Gln Gly Ser Ala Gly Thr Gly Lys Thr Thr Leu Ala
 20 25 30
 Arg Lys Met Val Leu Asp Trp Ala Thr Gly Thr Leu Tyr Pro Gly Arg
 35 40 45
 Phe Asp Tyr Val Phe Tyr Val Ser Cys Lys Glu Val Val Leu Leu Leu
 50 55 60
 Glu Ser Lys Leu Glu Gln Leu Leu Phe Trp Cys Cys Gly Asp Asn Gln
 65 70 75 80
 Ala Pro Val Thr Glu Ile Leu Arg Gln Pro Glu Arg Leu Leu Phe Ile
 85 90 95
 Leu Asp Gly Phe Asp Glu Leu Gln Arg Pro Phe Glu Glu Lys Leu Lys
 100 105 110
 Lys Arg Gly Leu Ser Pro Lys Glu Ser Leu Leu His Leu Leu Ile Arg
 115 120 125
 Arg His Thr Leu Pro Thr Cys Ser Leu Leu Ile Thr Thr Arg Pro Leu
 130 135 140
 Ala Leu Arg Asn Leu Glu Pro Leu Leu Lys Gln Ala Arg His Val His
 145 150 155 160
 Ile Leu Gly Phe Ser Glu Glu Glu Arg Ala Arg Tyr Phe Ser Ser Tyr
 165 170 175
 Phe Thr Asp Glu Lys Gln Ala Asp Arg Ala Phe Asp Ile Val Gln Lys
 180 185 190
 Asn Asp Ile Leu Tyr Lys Ala Cys Gln Val Pro Gly Ile Cys Trp Val
 195 200 205
 Val Cys Ser Trp Leu Gln Gly Gln Met Glu Arg Gly Lys Val Val Leu
 210 215 220
 Glu Thr Pro Arg Asn Ser Thr Asp Ile Phe Met Ala Tyr Val Ser Thr
 225 230 235 240
 Phe Leu Pro Pro Asp Asp Asp Gly Gly Cys Ser Glu Leu Ser Arg His
 245 250 255
 Arg Val Leu Arg Ser Leu Cys Ser Leu Ala Ala Glu Gly Ile Gln His

260

265

270

Gln Arg Phe Leu Phe Glu Glu Ala Glu Leu Arg Lys His Asn Leu Asp
 275 280 285

Gly Pro Arg Leu Ala Ala Phe Leu Ser Ser Asn Asp Tyr Gln Leu Gly
 290 295 300

Leu Ala Ile Lys Lys Phe Tyr Ser Phe Arg His Ile Ser Phe Gln Asp
 305 310 315 320

Phe Phe His Ala Met Ser Tyr Leu Val Lys Glu Asp Gln Ser Arg Leu
 325 330 335

Gly Lys Glu Ser Arg Arg Glu Val Gln Arg Leu Leu Glu Val Lys Glu
 340 345 350

Gln Glu Gly Asn Asp Glu Met Thr Leu Thr Met Gln Phe Leu Leu Asp
 355 360 365

Ile Ser Lys Lys Asp Ser Phe Ser Asn Leu Glu Leu Lys Phe Cys Phe
 370 375 380

Arg Ile Ser Pro Cys Leu Ala Gln Asp Leu Lys His Phe Lys Glu Gln
 385 390 395 400

Met Glu Ser Met Lys His Asn Arg Thr Trp Asp Leu Glu Phe Ser Leu
 405 410 415

Tyr Glu Ala Lys Ile Lys Asn Leu Val Lys Gly Ile Gln Met Asn Asn
 420 425 430

Val Ser Phe Lys Ile Lys His Ser Asn Glu Lys Lys Ser Gln Ser Gln
 435 440 445

Asn Leu Phe Ser Val Lys Ser Ser Leu Ser His Gly Pro Lys Glu Glu
 450 455 460

Gln Lys Cys Pro Ser Val
 465 470

<210> 172

<211> 466

<212> PRT

<213> Homo sapiens

<400> 172

Leu Ile Pro Phe Ser Asn Pro Arg Val Leu Pro Gly Pro Phe Ser Tyr
 1 5 10 15
 Thr Val Val Leu Tyr Gly Pro Ala Gly Leu Gly Lys Thr Thr Leu Ala
 20 25 30
 Gln Lys Leu Met Leu Asp Trp Ala Glu Asp Asn Leu Ile His Lys Phe
 35 40 45
 Lys Tyr Ala Phe Tyr Leu Ser Cys Arg Glu Leu Ser Arg Leu Gly Pro
 50 55 60
 Cys Ser Phe Ala Glu Leu Val Phe Arg Asp Trp Pro Glu Leu Gln Asp
 65 70 75 80
 Asp Ile Pro His Ile Leu Ala Gln Ala Arg Lys Ile Leu Phe Val Ile
 85 90 95
 Asp Gly Phe Asp Glu Leu Gly Ala Ala Pro Gly Ala Leu Ile Glu Asp
 100 105 110
 Ile Cys Gly Asp Trp Glu Lys Lys Lys Pro Val Pro Val Leu Leu Gly
 115 120 125
 Ser Leu Leu Asn Arg Val Met Leu Pro Lys Ala Ala Leu Leu Val Thr
 130 135 140
 Thr Arg Pro Arg Ala Leu Arg Asp Leu Arg Ile Leu Ala Glu Glu Pro
 145 150 155 160
 Ile Tyr Ile Arg Val Glu Gly Phe Leu Glu Glu Asp Arg Arg Ala Tyr
 165 170 175
 Phe Leu Arg His Phe Gly Asp Glu Asp Gln Ala Met Arg Ala Phe Glu
 180 185 190
 Leu Met Arg Ser Asn Ala Ala Leu Phe Gln Leu Gly Ser Ala Pro Ala
 195 200 205
 Val Cys Trp Ile Val Cys Thr Thr Leu Lys Leu Gln Met Glu Lys Gly
 210 215 220
 Glu Asp Pro Val Pro Thr Cys Leu Thr Arg Thr Gly Leu Phe Leu Arg
 225 230 235 240

Phe Leu Cys Ser Arg Phe Pro Gln Gly Ala Gln Leu Arg Gly Ala Leu
245 250 255

Arg Thr Leu Ser Leu Leu Ala Ala Gln Gly Leu Trp Ala Gln Thr Ser
260 265 270

Val Leu His Arg Glu Asp Leu Glu Arg Leu Gly Val Gln Glu Ser Asp
275 280 285

Leu Arg Leu Phe Leu Asp Gly Asp Ile Leu Arg Gln Asp Arg Val Ser
290 295 300

Lys Gly Cys Tyr Ser Phe Ile His Leu Ser Phe Gln Gln Phe Leu Thr
305 310 315 320

Ala Leu Phe Tyr Thr Leu Glu Lys Glu Glu Glu Glu Asp Arg Asp Gly
325 330 335

His Thr Trp Asp Ile Gly Asp Val Gln Lys Leu Leu Ser Gly Val Glu
340 345 350

Arg Leu Arg Asn Pro Asp Leu Ile Gln Ala Gly Tyr Tyr Ser Phe Gly
355 360 365

Leu Ala Asn Glu Lys Arg Ala Lys Glu Leu Glu Ala Thr Phe Gly Cys
370 375 380

Arg Met Ser Pro Asp Ile Lys Gln Glu Leu Leu Arg Cys Asp Ile Ser
385 390 395 400

Cys Lys Gly Gly His Ser Thr Val Thr Asp Leu Gln Glu Leu Leu Gly
405 410 415

Cys Leu Tyr Glu Ser Gln Glu Glu Leu Val Lys Glu Val Met Ala
420 425 430

Gln Phe Lys Glu Ile Ser Leu His Leu Asn Ala Val Asp Val Val Pro
435 440 445

Ser Ser Phe Cys Val Lys His Cys Arg Asn Leu Gln Lys Met Ser Leu
450 455 460

Gln Val
465

<210> 173

<211> 476
<212> PRT
<213> Homo sapiens

<400> 173

Thr Leu Ala Gly Ala Phe Asp Ser Asp Arg Trp Gly Phe Arg Pro Arg
1 5 10 15

Thr Val Val Leu His Gly Lys Ser Gly Ile Gly Lys Ser Ala Leu Ala
20 25 30

Arg Arg Ile Val Leu Cys Trp Ala Gln Gly Gly Leu Tyr Gln Gly Met
35 40 45

Phe Ser Tyr Val Phe Phe Leu Pro Val Arg Glu Met Gln Arg Lys Lys
50 55 60

Glu Ser Ser Val Thr Glu Phe Ile Ser Arg Glu Trp Pro Asp Ser Gln
65 70 75 80

Ala Pro Val Thr Glu Ile Met Ser Arg Pro Glu Arg Leu Leu Phe Ile
85 90 95

Ile Asp Gly Phe Asp Asp Leu Gly Ser Val Leu Asn Asn Asp Thr Lys
100 105 110

Leu Cys Lys Asp Trp Ala Glu Lys Gln Pro Pro Phe Thr Leu Ile Arg
115 120 125

Ser Leu Leu Arg Lys Val Leu Leu Pro Glu Ser Phe Leu Ile Val Thr
130 135 140

Val Arg Asp Val Gly Thr Glu Lys Leu Lys Ser Glu Val Val Ser Pro
145 150 155 160

Arg Tyr Leu Leu Val Arg Gly Ile Ser Gly Glu Gln Arg Ile His Leu
165 170 175

Leu Leu Glu Arg Gly Ile Gly Glu His Gln Lys Thr Gln Gly Leu Arg
180 185 190

Ala Ile Met Asn Asn Arg Glu Leu Leu Asp Gln Cys Gln Val Pro Ala
195 200 205

Val Gly Ser Leu Ile Cys Val Ala Leu Gln Leu Gln Asp Val Val Gly
210 215 220

Glu Ser Val Ala Pro Phe Asn Gln Thr Leu Thr Gly Leu His Ala Ala
 225 230 235 240

Phe Val Phe His Gln Leu Thr Pro Arg Gly Val Val Arg Arg Cys Leu
 245 250 255

Asn Leu Glu Glu Arg Val Val Leu Lys Arg Phe Cys Arg Met Ala Val
 260 265 270

Glu Gly Val Trp Asn Arg Lys Ser Val Phe Asp Gly Asp Asp Leu Met
 275 280 285

Val Gln Gly Leu Gly Glu Ser Glu Leu Arg Ala Leu Phe His Met Asn
 290 295 300

Ile Leu Leu Pro Asp Ser His Cys Glu Glu Tyr Tyr Thr Phe Phe His
 305 310 315 320

Leu Ser Leu Gln Asp Phe Cys Ala Ala Leu Tyr Tyr Val Leu Glu Gly
 325 330 335

Leu Glu Ile Glu Pro Ala Leu Cys Pro Leu Tyr Val Glu Lys Thr Lys
 340 345 350

Arg Ser Met Glu Leu Lys Gln Ala Gly Phe His Ile His Ser Leu Trp
 355 360 365

Met Lys Arg Phe Leu Phe Gly Leu Val Ser Glu Asp Val Arg Arg Pro
 370 375 380

Leu Glu Val Leu Leu Gly Cys Pro Val Pro Leu Gly Val Lys Gln Lys
 385 390 395 400

Leu Leu His Trp Val Ser Leu Leu Gly Gln Gln Pro Asn Ala Thr Thr
 405 410 415

Pro Gly Asp Thr Leu Asp Ala Phe His Cys Leu Phe Glu Thr Gln Asp
 420 425 430

Lys Glu Phe Val Arg Leu Ala Leu Asn Ser Phe Gln Glu Val Trp Leu
 435 440 445

Pro Ile Asn Gln Asn Leu Asp Leu Ile Ala Ser Ser Phe Cys Leu Gln
 450 455 460

His Cys Pro Tyr Leu Arg Lys Ile Arg Val Asp Val
 465 470 475

<210> 174
 <211> 496
 <212> PRT
 <213> Homo sapiens

<400> 174

Thr Phe Asn Arg Leu Phe Arg Arg Asp Glu Glu Gly Arg Arg Pro Leu
 1 5 10 15

Thr Val Val Leu Gln Gly Pro Ala Gly Ile Gly Lys Thr Met Ala Ala
 20 25 30

Lys Lys Ile Leu Tyr Asp Trp Ala Ala Gly Lys Leu Tyr Gln Gly Gln
 35 40 45

Val Asp Phe Ala Phe Phe Met Pro Cys Gly Glu Leu Leu Glu Arg Pro
 50 55 60

Gly Thr Arg Ser Leu Ala Asp Leu Ile Leu Asp Gln Cys Pro Asp Arg
 65 70 75 80

Gly Ala Pro Val Pro Gln Met Leu Ala Gln Pro Gln Arg Leu Leu Phe
 85 90 95

Ile Leu Asp Gly Ala Asp Glu Leu Pro Ala Leu Gly Gly Pro Glu Ala
 100 105 110

Ala Pro Cys Thr Asp Pro Phe Glu Ala Ala Ser Gly Ala Arg Val Leu
 115 120 125

Gly Gly Leu Leu Ser Lys Ala Leu Leu Pro Thr Ala Leu Leu Leu Val
 130 135 140

Thr Thr Arg Ala Ala Ala Pro Gly Arg Leu Gln Gly Arg Leu Cys Ser
 145 150 155 160

Pro Gln Cys Ala Glu Val Arg Gly Phe Ser Asp Lys Asp Lys Lys Lys
 165 170 175

Tyr Phe Tyr Lys Phe Phe Arg Asp Glu Arg Arg Ala Glu Arg Ala Tyr
 180 185 190

Arg Phe Val Lys Glu Asn Glu Thr Leu Phe Ala Leu Cys Phe Val Pro
 195 200 205

Phe Val Cys Trp Ile Val Cys Thr Val Leu Arg Gln Gln Leu Glu Leu
 210 215 220

Gly Arg Asp Leu Ser Arg Thr Ser Lys Thr Thr Thr Ser Val Tyr Leu
 225 230 235 240

Leu Phe Ile Thr Ser Val Leu Ser Ser Ala Pro Val Ala Asp Gly Pro
 245 250 255

Arg Leu Gln Gly Asp Leu Arg Asn Leu Cys Arg Leu Ala Arg Glu Gly
 260 265 270

Val Leu Gly Arg Arg Ala Gln Phe Ala Glu Lys Glu Leu Glu Gln Leu
 275 280 285

Glu Leu Arg Gly Ser Lys Val Gln Thr Leu Phe Leu Ser Lys Lys Glu
 290 295 300

Leu Pro Gly Val Leu Glu Thr Glu Val Thr Tyr Gln Phe Ile Asp Gln
 305 310 315 320

Ser Phe Gln Glu Phe Leu Ala Ala Leu Ser Tyr Leu Leu Glu Asp Gly
 325 330 335

Gly Val Pro Arg Thr Ala Ala Gly Gly Val Gly Thr Leu Leu Arg Gly
 340 345 350

Asp Ala Gln Pro His Ser His Leu Val Leu Thr Thr Arg Phe Leu Phe
 355 360 365

Gly Leu Leu Ser Ala Glu Arg Met Arg Asp Ile Glu Arg His Phe Gly
 370 375 380

Cys Met Val Ser Glu Arg Val Lys Gln Glu Ala Leu Arg Trp Val Gln
 385 390 395 400

Gly Gln Gly Gln Gly Cys Pro Gly Val Ala Pro Glu Val Thr Glu Gly
 405 410 415

Ala Lys Gly Leu Glu Asp Thr Glu Glu Pro Glu Glu Glu Glu Glu Gly
 420 425 430

Glu Glu Pro Asn Tyr Pro Leu Glu Leu Leu Tyr Cys Leu Tyr Glu Thr
 435 440 445

Gln Glu Asp Ala Phe Val Arg Gln Ala Leu Cys Arg Phe Pro Glu Leu
 450 455 460

Ala Leu Gln Arg Val Arg Phe Cys Arg Met Asp Val Ala Val Leu Ser
 465 470 475 480

Tyr Cys Val Arg Cys Cys Pro Ala Gly Gln Ala Leu Arg Leu Ile Ser
 485 490 495

<210> 175
 <211> 467
 <212> PRT
 <213> Homo sapiens

<400> 175

Leu Gln Leu Ala Tyr Asp Ser Thr Ser Tyr Tyr Ser Ala Asn Asn Leu
 1 5 10 15

Asn Val Phe Leu Met Gly Glu Arg Ala Ser Gly Lys Thr Ile Val Ile
 20 25 30

Asn Leu Ala Val Leu Arg Trp Ile Lys Gly Glu Met Trp Gln Asn Met
 35 40 45

Ile Ser Tyr Val Val His Leu Thr Ser His Glu Ile Asn Gln Met Thr
 50 55 60

Asn Ser Ser Leu Ala Glu Leu Ile Ala Lys Asp Trp Pro Asp Gly Gln
 65 70 75 80

Ala Pro Ile Ala Asp Ile Leu Ser Asp Pro Lys Lys Leu Leu Phe Ile
 85 90 95

Leu Glu Asp Leu Asp Asn Ile Arg Phe Glu Leu Asn Val Asn Glu Ser
 100 105 110

Ala Leu Cys Ser Asn Ser Thr Gln Lys Val Pro Ile Pro Val Leu Leu
 115 120 125

Val Ser Leu Leu Lys Arg Lys Met Ala Pro Gly Cys Trp Phe Leu Ile
 130 135 140

Ser Ser Arg Pro Thr Arg Gly Asn Asn Val Lys Thr Phe Leu Lys Glu
 145 150 155 160

Val Asp Cys Cys Thr Thr Leu Gln Leu Ser Asn Gly Lys Arg Glu Ile

Cys Leu Tyr Glu Asn Arg Glu Glu Glu Phe Val Lys Thr Ile Val Asp
 420 425 430

Ala Leu Met Glu Val Thr Val Tyr Leu Gln Ser Asp Lys Asp Met Met
 435 440 445

Val Ser Leu Tyr Cys Leu Asp Tyr Cys Cys His Leu Arg Thr Leu Lys
 450 455 460

Leu Ser Val
 465

<210> 176
 <211> 454
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (178)..(178)
 <223> "Xaa" denotes any amino acid residue.

<220>
 <221> MISC_FEATURE
 <222> (347)..(347)
 <223> "Xaa" denotes any amino acid residue.

<400> 176

Val Val Leu Gln Ala Cys Ala Gly Thr Gly Lys Thr Ala Val Val His
 1 5 10 15

Lys Phe Met Phe Asp Trp Ala Ala Gly Thr Val Thr Pro Gly Arg Cys
 20 25 30

Asp Tyr Leu Ile Tyr Val Asn Cys Ile Glu Ile Ser His Ile Ala Asn
 35 40 45

Leu Ser Ser Ala Asp Leu Ile Leu Thr Leu Phe Lys Ile Asn Gly Pro
 50 55 60

Ile Leu Asp Thr Ile Leu Ile Tyr Pro Lys Ile Leu Leu Ile Leu Asp
 65 70 75 80

Arg Phe Pro Glu Leu Gln Asp Pro Val Gly Asp Gln Glu Glu Asp Leu
 85 90 95

Ser Val His Pro Gln Glu Arg Arg Pro Val Glu Ser Leu Leu Cys Ser

100	105	110
Phe Val Arg Lys Lys Leu Phe Pro Glu Ser Ser Leu Leu Ile Thr Ala		
115	120	125
Arg Pro Thr Ala Met Lys Lys Leu His Ser Leu Leu Lys Gln Pro Ile		
130	135	140
Gln Ala Glu Ile Leu Trp Phe Thr Asp Thr Glu Lys Arg Ala Tyr Leu		
145	150	155
Leu Ser Gln Phe Ser Gly Ala Asn Thr Thr Met Lys Val Phe Tyr Asp		
165	170	175
Leu Xaa Glu Asn Glu Asp Leu Asp Ile Met Ser Ser Leu Pro Ile Val		
180	185	190
Ser Trp Met Ile Cys Asn Val Leu Gln Ser Gln Gly Asp Gly Asp Arg		
195	200	205
Thr Leu Leu Arg Ser Leu Gln Thr Met Thr Asp Val Tyr Leu Phe Tyr		
210	215	220
Phe Ser Lys Cys Leu Lys Thr Leu Thr Gly Ile Ser Val Trp Glu Gly		
225	230	235
Gln Ser Cys Leu Trp Gly Leu Cys Arg Leu Ala Ala Glu Gly Leu Gln		
245	250	255
Asn His Gln Val Leu Phe Ala Val Ser Asp Leu Arg Arg His Gly Ile		
260	265	270
Gly Val Cys Asp Thr Asn Cys Thr Phe Leu Ser Arg Phe Leu Lys Lys		
275	280	285
Ala Glu Gly Ala Val Ser Val Tyr Thr Phe Leu His Phe Ser Phe Gln		
290	295	300
Glu Phe Leu Thr Ala Val Phe His Ala Leu Lys Asn Asp Asn Ser Trp		
305	310	315
Met Phe Phe Tyr Gln Ala Glu Lys Met Trp Gln Glu Met Phe Gln Gln		
325	330	335
Tyr Gly Lys Gly Phe Ser Ser Leu Met Ile Xaa Phe Leu Phe Gly Leu		
340	345	350

Leu His Lys Gly Lys Gly Lys Ala Val Glu Thr Thr Phe Gly Arg Lys
355 360 365

Val Ser Pro Gly Leu Gln Glu Glu Leu Leu Lys Trp Thr Glu Arg Glu
370 375 380

Ile Lys Asp Lys Ser Ser Arg Leu Gln Ile Glu Pro Val Asp Leu Phe
385 390 395 400

His Cys Leu Tyr Glu Ile Gln Glu Glu Glu Tyr Ala Lys Arg Ile Ile
405 410 415

Asp Asp Leu Gln Ser Ile Ile Leu Leu Gln Pro Thr Tyr Thr Lys Met
420 425 430

Asp Ile Leu Val Met Ser Phe Cys Val Lys Ser Ser His Ser His Leu
435 440 445

Ser Val Ser Leu Lys Cys
450

<210> 177
<211> 588
<212> PRT
<213> Homo sapiens

<400> 177

Leu Ser Gln Leu Phe Asn Pro Asp Ala Cys Gly Arg Arg Val Gln Thr
1 5 10 15

Val Val Leu Tyr Gly Thr Val Gly Thr Gly Lys Ser Thr Leu Val Arg
20 25 30

Lys Met Val Leu Asp Trp Cys Tyr Gly Arg Leu Pro Ala Phe Glu Leu
35 40 45

Leu Ile Pro Phe Ser Cys Glu Asp Leu Ser Ser Leu Gly Pro Ala Pro
50 55 60

Ala Ser Leu Cys Gln Leu Val Ala Gln Arg Tyr Thr Pro Leu Lys Glu
65 70 75 80

Val Leu Pro Leu Met Ala Ala Ala Gly Ser His Leu Leu Phe Val Leu
85 90 95

His Gly Leu Glu His Leu Asn Leu Asp Phe Arg Leu Ala Gly Thr Gly
 100 105 110

Leu Cys Ser Asp Pro Glu Glu Pro Gln Glu Pro Ala Ala Ile Ile Val
 115 120 125

Asn Leu Leu Arg Lys Tyr Met Leu Pro Gln Ala Ser Ile Leu Val Thr
 130 135 140

Thr Arg Pro Ser Ala Ile Gly Arg Ile Pro Ser Lys Tyr Val Gly Arg
 145 150 155 160

Tyr Gly Glu Ile Cys Gly Phe Ser Asp Thr Asn Leu Gln Lys Leu Tyr
 165 170 175

Phe Gln Leu Arg Leu Asn Gln Pro Tyr Cys Gly Tyr Ala Val Gly Gly
 180 185 190

Ser Gly Val Ser Ala Thr Pro Ala Gln Arg Asp His Leu Val Gln Met
 195 200 205

Leu Ser Arg Asn Leu Glu Gly His His Gln Ile Ala Ala Ala Cys Phe
 210 215 220

Leu Pro Ser Tyr Cys Trp Leu Val Cys Ala Thr Leu His Phe Leu His
 225 230 235 240

Ala Pro Thr Pro Ala Gly Gln Thr Leu Thr Ser Ile Tyr Thr Ser Phe
 245 250 255

Leu Arg Leu Asn Phe Ser Gly Glu Thr Leu Asp Ser Thr Asp Pro Ser
 260 265 270

Asn Leu Ser Leu Met Ala Tyr Ala Ala Arg Thr Met Gly Lys Leu Ala
 275 280 285

Tyr Glu Gly Val Ser Ser Arg Lys Thr Tyr Phe Ser Glu Glu Asp Val
 290 295 300

Cys Gly Cys Leu Glu Ala Gly Ile Arg Thr Glu Glu Glu Phe Gln Leu
 305 310 315 320

Leu His Ile Phe Arg Arg Asp Ala Leu Arg Phe Phe Leu Ala Pro Cys
 325 330 335

Val Glu Pro Gly Arg Ala Gly Thr Phe Val Phe Thr Val Pro Ala Met

340

345

350

Gln Glu Tyr Leu Ala Ala Leu Tyr Ile Val Leu Gly Leu Arg Lys Thr
 355 360 365

Thr Leu Gln Lys Val Gly Lys Glu Val Ala Glu Leu Val Gly Arg Val
 370 375 380

Gly Glu Asp Val Ser Leu Val Leu Gly Ile Met Ala Lys Leu Leu Pro
 385 390 395 400

Leu Arg Ala Leu Pro Leu Leu Phe Asn Leu Ile Lys Val Val Pro Arg
 405 410 415

Val Phe Gly Arg Met Val Gly Lys Ser Arg Glu Ala Val Ala Gln Ala
 420 425 430

Met Val Leu Glu Met Phe Arg Glu Glu Asp Tyr Tyr Asn Asp Asp Val
 435 440 445

Leu Asp Gln Met Gly Ala Ser Ile Leu Gly Val Glu Gly Pro Arg Arg
 450 455 460

His Pro Asp Glu Pro Pro Glu Asp Glu Val Phe Glu Leu Phe Pro Met
 465 470 475 480

Phe Met Gly Gly Leu Leu Ser Ala His Asn Arg Ala Val Leu Ala Gln
 485 490 495

Leu Gly Cys Pro Ile Lys Asn Leu Asp Ala Leu Glu Asn Ala Gln Ala
 500 505 510

Ile Lys Lys Lys Leu Gly Lys Leu Gly Arg Gln Val Leu Pro Pro Ser
 515 520 525

Glu Leu Leu Asp His Leu Phe Phe His Tyr Glu Phe Gln Asn Gln Arg
 530 535 540

Phe Ser Ala Glu Val Leu Ser Ser Leu Arg Gln Leu Asn Leu Ala Gly
 545 550 555 560

Val Arg Met Thr Pro Val Lys Cys Thr Val Val Ala Ala Val Leu Gly
 565 570 575

Ser Gly Arg His Ala Leu Asp Glu Val Asn Leu Ala
 580 585

<210> 178
 <211> 467
 <212> PRT
 <213> Homo sapiens

<400> 178

Glu Val Leu Leu Ala Ala Lys Glu His Arg Arg Pro Arg Glu Thr Arg
 1 5 10 15

Val Ile Ala Val Leu Gly Lys Ala Gly Gln Gly Lys Ser Tyr Trp Ala
 20 25 30

Gly Ala Val Ser Arg Ala Trp Ala Cys Gly Arg Leu Pro Gln Tyr Asp
 35 40 45

Phe Val Phe Ser Val Pro Cys His Cys Leu Asn Arg Pro Gly Asp Ala
 50 55 60

Tyr Gly Leu Gln Asp Leu Leu Phe Ser Leu Gly Pro Gln Pro Leu Val
 65 70 75 80

Ala Ala Asp Glu Val Phe Ser His Ile Leu Lys Arg Pro Asp Arg Val
 85 90 95

Leu Leu Ile Leu Asp Ala Phe Glu Glu Leu Glu Ala Gln Asp Gly Phe
 100 105 110

Leu His Ser Thr Cys Gly Pro Ala Pro Ala Glu Pro Cys Ser Leu Arg
 115 120 125

Gly Leu Leu Ala Gly Leu Phe Gln Lys Lys Leu Leu Arg Gly Cys Thr
 130 135 140

Leu Leu Leu Thr Ala Arg Pro Arg Gly Arg Leu Val Gln Ser Leu Ser
 145 150 155 160

Lys Ala Asp Ala Leu Phe Glu Leu Ser Gly Phe Ser Met Glu Gln Ala
 165 170 175

Gln Ala Tyr Val Met Arg Tyr Phe Glu Ser Ser Gly Met Thr Glu His
 180 185 190

Gln Asp Arg Ala Leu Thr Leu Leu Arg Asp Arg Pro Leu Leu Leu Ser
 195 200 205

His Ser His Ser Pro Thr Leu Cys Arg Ala Val Cys Gln Leu Ser Glu
 210 215 220
 Ala Leu Leu Glu Leu Gly Glu Asp Ala Lys Leu Pro Ser Thr Leu Thr
 225 230 235 240
 Gly Leu Tyr Val Gly Leu Leu Gly Arg Ala Ala Leu Asp Ser Pro Pro
 245 250 255
 Gly Ala Leu Ala Glu Leu Ala Lys Leu Ala Trp Glu Leu Gly Arg Arg
 260 265 270
 His Gln Ser Thr Leu Gln Glu Asp Gln Phe Pro Ser Ala Asp Val Arg
 275 280 285
 Thr Trp Ala Met Ala Lys Gly Leu Val Gln His Pro Pro Arg Ala Ala
 290 295 300
 Glu Ser Glu Leu Ala Phe Pro Ser Phe Leu Leu Gln Cys Phe Leu Gly
 305 310 315 320
 Ala Leu Trp Leu Ala Leu Ser Gly Glu Ile Lys Asp Lys Glu Leu Pro
 325 330 335
 Gln Tyr Leu Ala Leu Thr Pro Arg Lys Lys Arg Pro Tyr Asp Asn Trp
 340 345 350
 Leu Glu Gly Val Pro Arg Phe Leu Ala Gly Leu Ile Phe Gln Pro Pro
 355 360 365
 Ala Arg Cys Leu Gly Ala Leu Leu Gly Pro Ser Ala Ala Ala Ser Val
 370 375 380
 Asp Arg Lys Gln Lys Val Leu Ala Arg Tyr Leu Lys Arg Leu Gln Pro
 385 390 395 400
 Gly Thr Leu Arg Ala Arg Gln Leu Leu Glu Leu Leu His Cys Ala His
 405 410 415
 Glu Ala Glu Glu Ala Gly Ile Trp Gln His Val Val Gln Glu Leu Pro
 420 425 430
 Gly Arg Leu Ser Phe Leu Gly Thr Arg Leu Thr Pro Pro Asp Ala His
 435 440 445
 Val Leu Gly Lys Ala Leu Glu Ala Ala Gly Gln Asp Phe Ser Leu Asp

450

455

460

Leu Arg Ser
465

<210> 179
<211> 465
<212> PRT
<213> Homo sapiens

<400> 179

Val Ser Ile Ser Asp Leu Phe Asn Thr Arg Val Asn Lys Gly Pro Arg
1 5 10 15

Val Thr Val Leu Leu Gly Lys Ala Gly Met Gly Lys Thr Thr Leu Ala
20 25 30

His Arg Leu Cys Gln Lys Trp Ala Glu Gly His Leu Asn Cys Phe Gln
35 40 45

Ala Leu Phe Leu Phe Glu Phe Arg Gln Leu Asn Leu Ile Thr Arg Phe
50 55 60

Leu Thr Pro Ser Glu Leu Leu Phe Asp Leu Tyr Leu Ser Pro Glu Ser
65 70 75 80

Asp His Asp Thr Val Phe Gln Tyr Leu Glu Lys Asn Ala Asp Gln Val
85 90 95

Leu Leu Ile Phe Asp Gly Leu Asp Glu Ala Leu Gln Pro Met Gly Pro
100 105 110

Asp Gly Pro Gly Pro Val Leu Thr Leu Phe Ser His Leu Cys Asn Gly
115 120 125

Thr Leu Leu Pro Gly Cys Arg Val Met Ala Thr Ser Arg Pro Gly Lys
130 135 140

Leu Pro Ala Cys Leu Pro Ala Glu Ala Ala Met Val His Met Leu Gly
145 150 155 160

Phe Asp Gly Pro Arg Val Glu Glu Tyr Val Asn His Phe Phe Ser Ala
165 170 175

Gln Pro Ser Arg Glu Gly Ala Leu Val Glu Leu Gln Thr Asn Gly Arg
180 185 190

Leu Arg Ser Leu Cys Ala Val Pro Ala Leu Cys Gln Val Ala Cys Leu
 195 200 205

Cys Leu His His Leu Leu Pro Asp His Ala Pro Gly Gln Ser Val Ala
 210 215 220

Leu Leu Pro Asn Met Thr Gln Leu Tyr Met Gln Met Val Leu Ala Leu
 225 230 235 240

Ser Pro Pro Gly His Leu Pro Thr Ser Ser Leu Leu Asp Leu Gly Glu
 245 250 255

Val Ala Leu Arg Gly Leu Glu Thr Gly Lys Val Ile Phe Tyr Ala Lys
 260 265 270

Asp Ile Ala Pro Pro Leu Ile Ala Phe Gly Ala Thr His Ser Leu Leu
 275 280 285

Thr Ser Phe Cys Val Cys Thr Gly Pro Gly His Gln Gln Thr Gly Tyr
 290 295 300

Ala Phe Thr His Leu Ser Leu Gln Glu Phe Leu Ala Ala Leu His Leu
 305 310 315 320

Met Ala Ser Pro Lys Val Asn Lys Asp Thr Leu Thr Gln Tyr Val Thr
 325 330 335

Leu His Ser Arg Trp Val Gln Arg Thr Lys Ala Arg Leu Gly Leu Ser
 340 345 350

Asp His Leu Pro Thr Phe Leu Ala Gly Leu Ala Ser Cys Thr Cys Arg
 355 360 365

Pro Phe Leu Ser His Leu Ala Gln Gly Asn Glu Asp Cys Val Gly Ala
 370 375 380

Lys Gln Ala Ala Val Val Gln Val Leu Lys Lys Leu Ala Thr Arg Lys
 385 390 395 400

Leu Thr Gly Pro Lys Val Val Glu Leu Cys His Cys Val Asp Glu Thr
 405 410 415

Gln Glu Pro Glu Leu Ala Ser Leu Thr Ala Gln Ser Leu Pro Tyr Gln
 420 425 430

Leu Pro Phe His Asn Phe Pro Leu Thr Cys Thr Asp Leu Ala Thr Leu
 435 440 445

Thr Asn Ile Leu Glu His Arg Glu Ala Pro Ile His Leu Asp Phe Asp
 450 455 460

Gly
 465

<210> 180
 <211> 501
 <212> PRT
 <213> Homo sapiens
 <400> 180

Leu Asp Arg Leu Phe Leu Pro Leu Ser Arg Val Ser Val Pro Pro Arg
 1 5 10 15

Val Ser Ile Thr Ile Gly Val Ala Gly Met Gly Lys Thr Thr Leu Val
 20 25 30

Arg His Phe Val Arg Leu Trp Ala His Gly Gln Val Gly Lys Asp Phe
 35 40 45

Ser Leu Val Leu Pro Leu Thr Phe Arg Asp Leu Asn Thr His Glu Lys
 50 55 60

Leu Cys Ala Asp Arg Leu Ile Cys Ser Val Phe Pro His Val Gly Glu
 65 70 75 80

Pro Ser Leu Ala Val Ala Val Pro Ala Arg Ala Leu Leu Ile Leu Asp
 85 90 95

Gly Leu Asp Glu Cys Arg Thr Pro Leu Asp Phe Ser Asn Thr Val Ala
 100 105 110

Cys Thr Asp Pro Lys Lys Glu Ile Pro Val Asp His Leu Ile Thr Asn
 115 120 125

Ile Ile Arg Gly Asn Leu Phe Pro Glu Val Ser Ile Trp Ile Thr Ser
 130 135 140

Arg Pro Ser Ala Ser Gly Gln Ile Pro Gly Gly Leu Val Asp Arg Met
 145 150 155 160

Thr Glu Ile Arg Gly Phe Asn Glu Glu Glu Ile Lys Val Cys Leu Glu
 165 170 175

Gln Met Phe Pro Glu Asp Gln Ala Leu Leu Gly Trp Met Leu Ser Gln
 180 185 190

Val Gln Ala Asp Arg Ala Leu Tyr Leu Met Cys Thr Val Pro Ala Phe
 195 200 205

Cys Arg Leu Thr Gly Met Ala Leu Gly His Leu Trp Arg Ser Arg Thr
 210 215 220

Gly Pro Gln Asp Ala Glu Leu Trp Pro Pro Arg Thr Leu Cys Glu Leu
 225 230 235 240

Tyr Ser Trp Tyr Phe Arg Met Ala Leu Ser Gly Glu Gly Gln Glu Lys
 245 250 255

Gly Lys Ala Ser Pro Arg Ile Glu Gln Val Ala His Gly Gly Arg Lys
 260 265 270

Met Val Gly Thr Leu Gly Arg Leu Ala Phe His Gly Leu Leu Lys Lys
 275 280 285

Lys Tyr Val Phe Tyr Glu Gln Asp Met Lys Ala Phe Gly Val Asp Leu
 290 295 300

Ala Leu Leu Gln Gly Ala Pro Cys Ser Cys Phe Leu Gln Arg Glu Glu
 305 310 315 320

Thr Leu Ala Ser Ser Val Ala Tyr Cys Phe Thr His Leu Ser Leu Gln
 325 330 335

Glu Phe Val Ala Ala Ala Tyr Tyr Tyr Gly Ala Ser Arg Arg Ala Ile
 340 345 350

Phe Asp Leu Phe Thr Glu Ser Gly Val Ser Trp Pro Arg Leu Gly Phe
 355 360 365

Leu Thr His Phe Arg Ser Ala Ala Gln Arg Ala Met Gln Ala Glu Asp
 370 375 380

Gly Arg Leu Asp Val Phe Leu Arg Phe Leu Ser Gly Leu Leu Ser Pro
 385 390 395 400

Arg Val Asn Ala Leu Leu Ala Gly Ser Leu Leu Ala Gln Gly Glu His
 405 410 415

Gln Ala Tyr Arg Thr Gln Val Ala Glu Leu Leu Gln Gly Cys Leu Arg
420 425 430

Pro Asp Ala Ala Val Cys Ala Arg Ala Ile Asn Val Leu His Cys Leu
435 440 445

His Glu Leu Gln His Thr Glu Leu Ala Arg Ser Val Glu Glu Ala Met
450 455 460

Glu Ser Gly Ala Leu Ala Arg Leu Thr Gly Pro Ala His Arg Ala Ala
465 470 475 480

Leu Ala Tyr Leu Leu Gln Val Ser Asp Ala Cys Ala Gln Glu Ala Asn
485 490 495

Leu Ser Leu Ser Leu
500

<210> 181
<211> 522
<212> PRT
<213> Homo sapiens

<400> 181

Leu Glu Glu Leu Phe Ser Thr Pro Gly His Leu Asn Asp Asp Ala Asp
1 5 10 15

Thr Val Leu Val Val Gly Glu Ala Gly Ser Gly Lys Ser Thr Leu Leu
20 25 30

Gln Arg Leu His Leu Leu Trp Ala Ala Gly Gln Asp Phe Gln Glu Phe
35 40 45

Leu Phe Val Phe Pro Phe Ser Cys Arg Gln Leu Gln Cys Met Ala Lys
50 55 60

Pro Leu Ser Val Arg Thr Leu Leu Phe Glu His Cys Cys Trp Pro Asp
65 70 75 80

Val Gly Gln Glu Asp Ile Phe Gln Leu Leu Leu Asp His Pro Asp Arg
85 90 95

Val Leu Leu Thr Phe Asp Gly Phe Asp Glu Phe Lys Phe Arg Phe Thr
100 105 110

Asp Arg Glu Arg His Cys Ser Pro Thr Asp Pro Thr Ser Val Gln Thr

115 120 125
 Leu Leu Phe Asn Leu Leu Gln Gly Asn Leu Leu Lys Asn Ala Arg Lys
 130 135 140
 Val Val Thr Ser Arg Pro Ala Ala Val Ser Ala Phe Leu Arg Lys Tyr
 145 150 155 160
 Ile Arg Thr Glu Phe Asn Leu Lys Gly Phe Ser Glu Gln Gly Ile Glu
 165 170 175
 Leu Tyr Leu Arg Lys Arg His His Glu Pro Gly Val Ala Asp Arg Leu
 180 185 190
 Ile Arg Leu Leu Gln Glu Thr Ser Ala Leu His Gly Leu Cys His Leu
 195 200 205
 Pro Val Phe Ser Trp Met Val Ser Lys Cys His Gln Glu Leu Leu Leu
 210 215 220
 Gln Glu Gly Gly Ser Pro Lys Thr Thr Thr Asp Met Tyr Leu Leu Ile
 225 230 235 240
 Leu Gln His Phe Leu Leu His Ala Thr Pro Pro Asp Ser Ala Ser Gln
 245 250 255
 Gly Leu Gly Pro Ser Leu Leu Arg Gly Arg Leu Pro Thr Leu Leu His
 260 265 270
 Leu Gly Arg Leu Ala Leu Trp Gly Leu Gly Met Cys Cys Tyr Val Phe
 275 280 285
 Ser Ala Gln Gln Leu Gln Ala Ala Gln Val Ser Pro Asp Asp Ile Ser
 290 295 300
 Leu Gly Phe Leu Val Arg Ala Lys Gly Val Val Pro Gly Ser Thr Ala
 305 310 315 320
 Pro Leu Glu Phe Leu His Ile Thr Phe Gln Cys Phe Phe Ala Ala Phe
 325 330 335
 Tyr Leu Ala Leu Ser Ala Asp Val Pro Pro Ala Leu Leu Arg His Leu
 340 345 350
 Phe Asn Cys Gly Arg Pro Gly Asn Ser Pro Met Ala Arg Leu Leu Pro
 355 360 365

Thr Met Cys Ile Gln Ala Ser Glu Gly Lys Asp Ser Ser Val Ala Ala
 370 375 380

Leu Leu Gln Lys Ala Glu Pro His Asn Leu Gln Ile Thr Ala Ala Phe
 385 390 395 400

Leu Ala Gly Leu Leu Ser Arg Glu His Trp Gly Leu Leu Ala Glu Cys
 405 410 415

Gln Thr Ser Glu Lys Ala Leu Leu Arg Arg Gln Ala Cys Ala Arg Trp
 420 425 430

Cys Leu Ala Arg Ser Leu Arg Lys His Phe His Ser Ile Pro Pro Ala
 435 440 445

Ala Pro Gly Glu Ala Lys Ser Val His Ala Met Pro Gly Phe Ile Trp
 450 455 460

Leu Ile Arg Ser Leu Tyr Glu Met Gln Glu Glu Arg Leu Ala Arg Lys
 465 470 475 480

Ala Ala Arg Gly Leu Asn Val Gly His Leu Lys Leu Thr Phe Cys Ser
 485 490 495

Val Gly Pro Thr Glu Cys Ala Ala Leu Ala Phe Val Leu Gln His Leu
 500 505 510

Arg Arg Pro Val Ala Leu Gln Leu Asp Tyr
 515 520

<210> 182
 <211> 532
 <212> PRT
 <213> Homo sapiens

<400> 182

Ala Cys Leu Leu Asp His Thr Thr Gly Ile Leu Asn Glu Gln Gly Glu
 1 5 10 15

Thr Ile Phe Ile Leu Gly Asp Ala Gly Val Gly Lys Ser Met Leu Leu
 20 25 30

Gln Arg Leu Gln Ser Leu Trp Ala Thr Gly Arg Leu Asp Ala Gly Val
 35 40 45

Lys Phe Phe Phe His Phe Arg Cys Arg Met Phe Ser Cys Phe Lys Glu
 50 55 60
 Ser Asp Arg Leu Cys Leu Gln Asp Leu Leu Phe Lys His Tyr Cys Tyr
 65 70 75 80
 Pro Glu Arg Asp Pro Glu Glu Val Phe Ala Phe Leu Leu Arg Phe Pro
 85 90 95
 His Val Ala Leu Phe Thr Phe Asp Gly Leu Asp Glu Leu His Ser Asp
 100 105 110
 Leu Asp Leu Ser Arg Val Pro Asp Ser Ser Cys Pro Trp Glu Pro Ala
 115 120 125
 His Pro Leu Val Leu Leu Ala Asn Leu Leu Ser Gly Lys Leu Leu Lys
 130 135 140
 Gly Ala Ser Lys Leu Leu Thr Ala Arg Thr Gly Ile Glu Val Pro Arg
 145 150 155 160
 Gln Phe Leu Arg Lys Lys Val Leu Leu Arg Gly Phe Ser Pro Ser His
 165 170 175
 Leu Arg Ala Tyr Ala Arg Arg Met Phe Pro Glu Arg Ala Leu Gln Asp
 180 185 190
 Arg Leu Leu Ser Gln Leu Glu Ala Asn Pro Asn Leu Cys Ser Leu Cys
 195 200 205
 Ser Val Pro Leu Phe Cys Trp Ile Ile Phe Arg Cys Phe Gln His Phe
 210 215 220
 Arg Ala Ala Phe Glu Gly Ser Pro Gln Leu Pro Asp Cys Thr Met Thr
 225 230 235 240
 Leu Thr Asp Val Phe Leu Leu Val Thr Glu Val His Leu Asn Arg Met
 245 250 255
 Gln Pro Ser Ser Leu Val Gln Arg Asn Thr Arg Ser Pro Val Glu Thr
 260 265 270
 Leu His Ala Gly Arg Asp Thr Leu Cys Ser Leu Gly Gln Val Ala His
 275 280 285
 Arg Gly Met Glu Lys Ser Leu Phe Val Phe Thr Gln Glu Glu Val Gln

290		295		300
Ala Ser Gly Leu Gln Glu Arg Asp Met Gln Leu Gly Phe Leu Arg Ala				
305		310		315 320
Leu Pro Glu Leu Gly Pro Gly Gly Asp Gln Gln Ser Tyr Glu Phe Phe				
	325		330	335
His Leu Thr Leu Gln Ala Phe Phe Thr Ala Phe Phe Leu Val Leu Asp				
	340		345	350
Asp Arg Val Gly Thr Gln Glu Leu Leu Arg Phe Phe Gln Glu Trp Met				
	355		360	365
Pro Pro Ala Gly Ala Ala Thr Thr Ser Cys Tyr Pro Pro Phe Leu Pro				
	370		375	380
Phe Gln Cys Leu Gln Gly Ser Gly Pro Ala Arg Glu Asp Leu Phe Lys				
385		390		395 400
Asn Lys Asp His Phe Gln Phe Thr Asn Leu Phe Leu Cys Gly Leu Leu				
	405		410	415
Ser Lys Ala Lys Gln Lys Leu Leu Arg His Leu Val Pro Ala Ala Ala				
	420		425	430
Leu Arg Arg Lys Arg Lys Ala Leu Trp Ala His Leu Phe Ser Ser Leu				
	435		440	445
Arg Gly Tyr Leu Lys Ser Leu Pro Arg Val Gln Val Glu Ser Phe Asn				
	450		455	460
Gln Val Gln Ala Met Pro Thr Phe Ile Trp Met Leu Arg Cys Ile Tyr				
465		470		475 480
Glu Thr Gln Ser Gln Lys Val Gly Gln Leu Ala Ala Arg Gly Ile Cys				
	485		490	495
Ala Asn Tyr Leu Lys Leu Thr Tyr Cys Asn Ala Cys Ser Ala Asp Cys				
	500		505	510
Ser Ala Leu Ser Phe Val Leu His His Phe Pro Lys Arg Leu Ala Leu				
	515		520	525
Asp Leu Asp Asn				
530				

<210> 183
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 183

Arg Val Glu Gln Leu Thr Leu Asn Gly Leu Leu Gln Ala Leu Gln Ser
 1 5 10 15

Pro Cys Ile Ile Glu Gly Glu Ser Gly Lys Gly Lys Ser Thr Leu Leu
 20 25 30

Gln Arg Ile Ala Met Leu Trp Gly Ser Gly Lys Cys Lys Ala Leu Thr
 35 40 45

Lys Phe Lys Phe Val Phe Phe Leu Arg Leu Ser Arg Ala Gln Gly Gly
 50 55 60

Leu Phe Glu Thr Leu Cys Asp Gln Leu Leu Asp Ile Pro Gly Thr Ile
 65 70 75 80

Arg Lys Gln Thr Phe Met Ala Met Leu Leu Lys Leu Arg Gln Arg Val
 85 90 95

Leu Phe Leu Leu Asp Gly Tyr Asn Glu Phe Lys Pro Gln Asn Cys Pro
 100 105 110

Glu Ile Glu Ala Leu Ile Lys Glu Asn His Arg Phe Lys Asn Met Val
 115 120 125

Ile Val Thr Thr Thr Thr Glu Cys Leu Arg His Ile Arg Gln Phe Gly
 130 135 140

Ala Leu Thr Ala Glu Val Gly Asp Met Thr Glu Asp Ser Ala Gln Ala
 145 150 155 160

Leu Ile Arg Glu Val Leu Ile Lys Glu Leu Ala Glu Gly Leu Leu Leu
 165 170 175

Gln Ile Gln Lys Ser Arg Cys Leu Arg Asn Leu Met Lys Thr Pro Leu
 180 185 190

Phe Val Val Ile Thr Cys Ala Ile Gln Met Gly Glu Ser Glu Phe His
 195 200 205

Ser His Thr Gln Thr Thr Leu Phe His Thr Phe Tyr Asp Leu Leu Ile
 210 215 220

Gln Lys Asn Lys His Lys His Lys Gly Val Ala Ala Ser Asp Phe Ile
 225 230 235 240

Arg Ser Leu Asp His Cys Gly Asp Leu Ala Leu Glu Gly Val Phe Ser
 245 250 255

His Lys Phe Asp Phe Glu Leu Gln Asp Val Ser Ser Val Asn Glu Asp
 260 265 270

Val Leu Leu Thr Thr Gly Leu Leu Cys Lys Tyr Thr Ala Gln Arg Phe
 275 280 285

Lys Pro Lys Tyr Lys Phe Phe His Lys Ser Phe Gln Glu Tyr Thr Ala
 290 295 300

Gly Arg Arg Leu Ser Ser Leu Leu
 305 310

<210> 184
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 184

Val Gln Glu Pro Leu Val Leu Pro Glu Val Phe Gly Asn Leu Asn Ser
 1 5 10 15

Val Met Cys Val Glu Gly Glu Ala Gly Ser Gly Lys Thr Val Leu Leu
 20 25 30

Lys Lys Ile Ala Phe Leu Trp Ala Ser Gly Cys Cys Pro Leu Leu Asn
 35 40 45

Arg Phe Gln Leu Val Phe Tyr Leu Ser Leu Ser Ser Thr Arg Pro Asp
 50 55 60

Glu Gly Leu Ala Ser Ile Ile Cys Asp Gln Leu Leu Glu Lys Glu Gly
 65 70 75 80

Ser Val Thr Glu Met Cys Met Arg Asn Ile Ile Gln Gln Leu Lys Asn
 85 90 95

Gln Val Leu Phe Leu Leu Asp Asp Tyr Lys Glu Ile Cys Ser Ile Pro
 100 105 110

Gln Val Ile Gly Lys Leu Ile Gln Lys Asn His Leu Ser Arg Thr Cys
 115 120 125

Leu Leu Ile Ala Val Arg Thr Asn Arg Ala Arg Asp Ile Arg Arg Tyr
 130 135 140

Leu Glu Thr Ile Leu Glu Ile Lys Ala Phe Pro Phe Tyr Asn Thr Val
 145 150 155 160

Cys Ile Leu Arg Lys Leu Phe Ser His Asn Met Thr Arg Leu Arg Lys
 165 170 175

Phe Met Val Tyr Phe Gly Lys Asn Gln Ser Leu Gln Lys Ile Gln Lys
 180 185 190

Thr Pro Leu Phe Val Ala Ala Ile Cys Ala His Trp Phe Gln Tyr Pro
 195 200 205

Phe Asp Pro Ser Phe Asp Asp Val Ala Val Phe Lys Ser Tyr Met Glu
 210 215 220

Arg Leu Ser Leu Arg Asn Lys Ala Thr Ala Glu Ile Leu Lys Ala Thr
 225 230 235 240

Val Ser Ser Cys Gly Glu Leu Ala Leu Lys Gly Phe Phe Ser Cys Cys
 245 250 255

Phe Glu Phe Asn Asp Asp Asp Leu Ala Glu Ala Gly Val Asp Glu Asp
 260 265 270

Glu Asp Leu Thr Met Cys Leu Met Ser Lys Phe Thr Ala Gln Arg Leu
 275 280 285

Arg Pro Phe Tyr Arg Phe Leu Ser Pro Ala Phe Gln Glu Phe Leu Ala
 290 295 300

Gly Met Arg Leu Ile Glu Leu Leu
 305 310

<210> 185

<211> 5601

<212> DNA

<213> Homo sapiens

<400> 185

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 caggccccctt ggggtacttg a 5601

<210> 186
 <211> 1866
 <212> PRT
 <213> Homo sapiens

<400> 186

Met Asp Pro Val Gly Leu Gln Leu Gly Asn Lys Asn Leu Trp Ser Cys
 1 5 10 15

Leu Val Arg Leu Leu Thr Lys Asp Pro Glu Trp Leu Asn Ala Lys Met
 20 25 30

Lys Phe Phe Leu Pro Asn Thr Asp Leu Asp Ser Arg Asn Glu Thr Leu
 35 40 45

Asp Pro Glu Gln Arg Val Ile Leu Gln Leu Asn Lys Leu His Val Gln
 50 55 60

Gly Ser Asp Thr Trp Gln Ser Phe Ile His Cys Val Cys Met Gln Leu
 65 70 75 80

Glu Val Pro Leu Asp Leu Glu Val Leu Leu Leu Ser Thr Phe Gly Tyr
 85 90 95

Asp Asp Gly Phe Thr Ser Gln Leu Gly Ala Glu Gly Lys Ser Gln Pro
 100 105 110

Glu Ser Gln Leu His His Gly Leu Lys Arg Pro His Gln Ser Cys Gly
 115 120 125

Ser Ser Pro Arg Arg Lys Gln Cys Lys Lys Gln Gln Leu Glu Leu Ala
 130 135 140

Lys Lys Tyr Leu Gln Leu Leu Arg Thr Ser Ala Gln Gln Arg Tyr Arg
 145 150 155 160

Ser Gln Ile Pro Gly Ser Gly Gln Pro His Ala Phe His Gln Val Tyr
 165 170 175

Val Pro Pro Ile Leu Arg Arg Ala Thr Ala Ser Leu Asp Thr Pro Glu
 180 185 190

Gly Ala Ile Met Gly Asp Val Lys Val Glu Asp Gly Ala Asp Val Ser

195

200

205

Ile Ser Asp Leu Phe Asn Thr Arg Val Asn Lys Gly Pro Arg Val Thr
 210 215 220

Val Leu Leu Gly Lys Ala Gly Met Gly Lys Thr Thr Leu Ala His Arg
 225 230 235 240

Leu Cys Gln Lys Trp Ala Glu Gly His Leu Asn Cys Phe Gln Ala Leu
 245 250 255

Phe Leu Phe Glu Phe Arg Gln Leu Asn Leu Ile Thr Arg Phe Leu Thr
 260 265 270

Pro Ser Glu Leu Leu Phe Asp Leu Tyr Leu Ser Pro Glu Ser Asp His
 275 280 285

Asp Thr Val Phe Gln Tyr Leu Glu Lys Asn Ala Asp Gln Val Leu Leu
 290 295 300

Ile Phe Asp Gly Leu Asp Glu Ala Leu Gln Pro Met Gly Pro Asp Gly
 305 310 315 320

Pro Gly Pro Val Leu Thr Leu Phe Ser His Leu Cys Asn Gly Thr Leu
 325 330 335

Leu Pro Gly Cys Arg Val Met Ala Thr Ser Arg Pro Gly Lys Leu Pro
 340 345 350

Ala Cys Leu Pro Ala Glu Ala Ala Met Val His Met Leu Gly Phe Asp
 355 360 365

Gly Pro Arg Val Glu Glu Tyr Val Asn His Phe Phe Ser Ala Gln Pro
 370 375 380

Ser Arg Glu Gly Ala Leu Val Glu Leu Gln Thr Asn Gly Arg Leu Arg
 385 390 395 400

Ser Leu Cys Ala Val Pro Ala Leu Cys Gln Val Ala Cys Leu Cys Leu
 405 410 415

His His Leu Leu Pro Asp His Ala Pro Gly Gln Ser Val Ala Leu Leu
 420 425 430

Pro Asn Met Thr Gln Leu Tyr Met Gln Met Val Leu Ala Leu Ser Pro
 435 440 445

Pro Gly His Leu Pro Thr Ser Ser Leu Leu Asp Leu Gly Glu Val Ala
 450 455 460

Leu Arg Gly Leu Glu Thr Gly Lys Val Ile Phe Tyr Ala Lys Asp Ile
 465 470 475 480

Ala Pro Pro Leu Ile Ala Phe Gly Ala Thr His Ser Leu Leu Thr Ser
 485 490 495

Phe Cys Val Cys Thr Gly Pro Gly His Gln Gln Thr Gly Tyr Ala Phe
 500 505 510

Thr His Leu Ser Leu Gln Glu Phe Leu Ala Ala Leu His Leu Met Ala
 515 520 525

Ser Pro Lys Val Asn Lys Asp Thr Leu Thr Gln Tyr Val Thr Leu His
 530 535 540

Ser Arg Trp Val Gln Arg Thr Lys Ala Arg Leu Gly Leu Ser Asp His
 545 550 555 560

Leu Pro Thr Phe Leu Ala Gly Leu Ala Ser Cys Thr Cys Arg Pro Phe
 565 570 575

Leu Ser His Leu Ala Gln Gly Asn Glu Asp Cys Val Gly Ala Lys Gln
 580 585 590

Ala Ala Val Val Gln Val Leu Lys Lys Leu Ala Thr Arg Lys Leu Thr
 595 600 605

Gly Pro Lys Val Val Glu Leu Cys His Cys Val Asp Glu Thr Gln Glu
 610 615 620

Pro Glu Leu Ala Ser Leu Thr Ala Gln Ser Leu Pro Tyr Gln Leu Pro
 625 630 635 640

Phe His Asn Phe Pro Leu Thr Cys Thr Asp Leu Ala Thr Leu Thr Asn
 645 650 655

Ile Leu Glu His Arg Glu Ala Pro Ile His Leu Asp Phe Asp Gly Cys
 660 665 670

Pro Leu Glu Pro His Cys Pro Glu Ala Leu Val Gly Cys Gly Gln Ile
 675 680 685

Glu Asn Leu Ser Phe Lys Ser Arg Lys Cys Gly Asp Ala Phe Ala Glu
 690 695 700

Ala Leu Ser Arg Ser Leu Pro Thr Met Gly Arg Leu Gln Met Leu Gly
 705 710 715 720

Leu Ala Gly Ser Lys Ile Thr Ala Arg Gly Ile Ser His Leu Val Lys
 725 730 735

Ala Leu Pro Leu Cys Pro Gln Leu Lys Glu Val Ser Phe Arg Asp Asn
 740 745 750

Gln Leu Ser Asp Gln Val Val Leu Asn Ile Val Glu Val Leu Pro His
 755 760 765

Leu Pro Arg Leu Arg Lys Leu Asp Leu Ser Ser Asn Ser Ile Cys Val
 770 775 780

Ser Thr Leu Leu Cys Leu Ala Arg Val Ala Val Thr Cys Pro Thr Val
 785 790 795 800

Arg Met Leu Gln Ala Arg Glu Arg Thr Ile Ile Phe Leu Leu Ser Pro
 805 810 815

Pro Thr Glu Thr Thr Ala Glu Leu Gln Arg Ala Pro Asp Leu Gln Glu
 820 825 830

Ser Asp Gly Gln Arg Lys Gly Ala Gln Ser Arg Ser Leu Thr Leu Arg
 835 840 845

Leu Gln Lys Cys Gln Leu Gln Val His Asp Ala Glu Ala Leu Ile Ala
 850 855 860

Leu Leu Gln Glu Gly Pro His Leu Glu Glu Val Asp Leu Ser Gly Asn
 865 870 875 880

Gln Leu Glu Asp Glu Gly Cys Arg Leu Met Ala Glu Ala Ala Ser Gln
 885 890 895

Leu His Ile Ala Arg Lys Leu Asp Leu Ser Asp Asn Gly Leu Ser Val
 900 905 910

Ala Gly Val His Cys Val Leu Arg Ala Val Ser Ala Cys Trp Thr Leu
 915 920 925

Ala Glu Leu His Ile Ser Leu Gln His Lys Thr Val Ile Phe Met Phe
 930 935 940

Ala Gln Glu Pro Glu Glu Gln Lys Gly Pro Gln Glu Arg Ala Ala Phe
 945 950 955 960

Leu Asp Ser Leu Met Leu Gln Met Pro Ser Glu Leu Pro Leu Ser Ser
 965 970 975

Arg Arg Met Arg Leu Thr His Cys Gly Leu Gln Glu Lys His Leu Glu
 980 985 990

Gln Leu Cys Lys Ala Leu Gly Gly Ser Cys His Leu Gly His Leu His
 995 1000 1005

Leu Asp Phe Ser Gly Asn Ala Leu Gly Asp Glu Gly Ala Ala Arg
 1010 1015 1020

Leu Ala Gln Leu Leu Pro Gly Leu Gly Ala Leu Gln Ser Leu Asn
 1025 1030 1035

Leu Ser Glu Asn Gly Leu Ser Leu Asp Ala Val Leu Gly Leu Val
 1040 1045 1050

Arg Cys Phe Ser Thr Leu Gln Trp Leu Phe Arg Leu Asp Ile Ser
 1055 1060 1065

Phe Glu Ser Gln His Ile Leu Leu Arg Gly Asp Lys Thr Ser Arg
 1070 1075 1080

Asp Met Trp Ala Thr Gly Ser Leu Pro Asp Phe Pro Ala Ala Ala
 1085 1090 1095

Lys Phe Leu Gly Phe Arg Gln Arg Cys Ile Pro Arg Ser Leu Cys
 1100 1105 1110

Leu Ser Glu Cys Pro Leu Glu Pro Pro Ser Leu Thr Arg Leu Cys
 1115 1120 1125

Ala Thr Leu Lys Asp Cys Pro Gly Pro Leu Glu Leu Gln Leu Ser
 1130 1135 1140

Cys Glu Phe Leu Ser Asp Gln Ser Leu Glu Thr Leu Leu Asp Cys
 1145 1150 1155

Leu Pro Gln Leu Pro Gln Leu Ser Leu Leu Gln Leu Ser Gln Thr

1160						1165						1170			
Gly	Leu	Ser	Pro	Lys	Ser	Pro	Phe	Leu	Leu	Ala	Asn	Thr	Leu	Ser	
1175						1180					1185				
Leu	Cys	Pro	Arg	Val	Lys	Lys	Val	Asp	Leu	Arg	Ser	Leu	His	His	
1190						1195					1200				
Ala	Thr	Leu	His	Phe	Arg	Ser	Asn	Glu	Glu	Glu	Glu	Gly	Val	Cys	
1205						1210					1215				
Cys	Gly	Arg	Phe	Thr	Gly	Cys	Ser	Leu	Ser	Gln	Glu	His	Val	Glu	
1220						1225					1230				
Ser	Leu	Cys	Trp	Leu	Leu	Ser	Lys	Cys	Lys	Asp	Leu	Ser	Gln	Val	
1235						1240					1245				
Asp	Leu	Ser	Ala	Asn	Leu	Leu	Gly	Asp	Ser	Gly	Leu	Arg	Cys	Leu	
1250						1255					1260				
Leu	Glu	Cys	Leu	Pro	Gln	Val	Pro	Ile	Ser	Gly	Leu	Leu	Asp	Leu	
1265						1270					1275				
Ser	His	Asn	Ser	Ile	Ser	Gln	Glu	Ser	Ala	Leu	Tyr	Leu	Leu	Glu	
1280						1285					1290				
Thr	Leu	Pro	Ser	Cys	Pro	Arg	Val	Arg	Glu	Ala	Ser	Val	Asn	Leu	
1295						1300					1305				
Gly	Ser	Glu	Gln	Ser	Phe	Arg	Ile	His	Phe	Ser	Arg	Glu	Asp	Gln	
1310						1315					1320				
Ala	Gly	Lys	Thr	Leu	Arg	Leu	Ser	Glu	Cys	Ser	Phe	Arg	Pro	Glu	
1325						1330					1335				
His	Val	Ser	Arg	Leu	Ala	Thr	Gly	Leu	Ser	Lys	Ser	Leu	Gln	Leu	
1340						1345					1350				
Thr	Glu	Leu	Thr	Leu	Thr	Gln	Cys	Cys	Leu	Gly	Gln	Lys	Gln	Leu	
1355						1360					1365				
Ala	Ile	Leu	Leu	Ser	Leu	Val	Gly	Arg	Pro	Ala	Gly	Leu	Phe	Ser	
1370						1375					1380				
Leu	Arg	Val	Gln	Glu	Pro	Trp	Ala	Asp	Arg	Ala	Arg	Val	Leu	Ser	
1385						1390					1395				

Leu	Leu	Glu	Val	Cys	Ala	Gln	Ala	Ser	Gly	Ser	Val	Thr	Glu	Ile
1400						1405					1410			
Ser	Ile	Ser	Glu	Thr	Gln	Gln	Gln	Leu	Cys	Val	Gln	Leu	Glu	Phe
1415						1420					1425			
Pro	Arg	Gln	Glu	Glu	Asn	Pro	Glu	Ala	Val	Ala	Leu	Arg	Leu	Ala
1430						1435					1440			
His	Cys	Asp	Leu	Gly	Ala	His	His	Ser	Leu	Leu	Val	Gly	Gln	Leu
1445						1450					1455			
Met	Glu	Thr	Cys	Ala	Arg	Leu	Gln	Gln	Leu	Ser	Leu	Ser	Gln	Val
1460						1465					1470			
Asn	Leu	Cys	Glu	Asp	Asp	Asp	Ala	Ser	Ser	Leu	Leu	Leu	Gln	Ser
1475						1480					1485			
Leu	Leu	Leu	Ser	Leu	Ser	Glu	Leu	Lys	Thr	Phe	Arg	Leu	Thr	Ser
1490						1495					1500			
Ser	Cys	Val	Ser	Thr	Glu	Gly	Leu	Ala	His	Leu	Ala	Ser	Gly	Leu
1505						1510					1515			
Gly	His	Cys	His	His	Leu	Glu	Glu	Leu	Asp	Leu	Ser	Asn	Asn	Gln
1520						1525					1530			
Phe	Asp	Glu	Glu	Gly	Thr	Lys	Ala	Leu	Met	Arg	Ala	Leu	Glu	Gly
1535						1540					1545			
Lys	Trp	Met	Leu	Lys	Arg	Leu	Asp	Leu	Ser	His	Leu	Leu	Leu	Asn
1550						1555					1560			
Ser	Ser	Thr	Leu	Ala	Leu	Leu	Thr	His	Arg	Leu	Ser	Gln	Met	Thr
1565						1570					1575			
Cys	Leu	Gln	Ser	Leu	Arg	Leu	Asn	Arg	Asn	Ser	Ile	Gly	Asp	Val
1580						1585					1590			
Gly	Cys	Cys	His	Leu	Ser	Glu	Ala	Leu	Arg	Ala	Ala	Thr	Ser	Leu
1595						1600					1605			
Glu	Glu	Leu	Asp	Leu	Ser	His	Asn	Gln	Ile	Gly	Asp	Ala	Gly	Val
1610						1615					1620			

Gln His	Leu Ala Thr Ile	Leu	Pro Gly Leu Pro	Glu	Leu Arg Lys
1625		1630		1635	
Ile Asp	Leu Ser Gly Asn Ser	Ile Ser Ser Ala	Gly	Gly Val Gln	
1640		1645		1650	
Leu Ala	Glu Ser Leu Val	Leu	Cys Arg Arg Leu	Glu	Glu Leu Met
1655		1660		1665	
Leu Gly	Cys Asn Ala Leu	Gly	Asp Pro Thr Ala	Leu	Gly Leu Ala
1670		1675		1680	
Gln Glu	Leu Pro Gln His	Leu	Arg Val Leu His	Leu	Pro Phe Ser
1685		1690		1695	
His Leu	Gly Pro Gly Gly	Ala	Leu Ser Leu Ala	Gln	Ala Leu Asp
1700		1705		1710	
Gly Ser	Pro His Leu Glu	Glu	Ile Ser Leu Ala	Glu	Asn Asn Leu
1715		1720		1725	
Ala Gly	Gly Val Leu Arg	Phe	Cys Met Glu Leu	Pro	Leu Leu Arg
1730		1735		1740	
Gln Ile	Asp Leu Val Ser	Cys	Lys Ile Asp Asn	Gln	Thr Ala Lys
1745		1750		1755	
Leu Leu	Thr Ser Ser Phe	Thr	Ser Cys Pro Ala	Leu	Glu Val Ile
1760		1765		1770	
Leu Leu	Ser Trp Asn Leu	Leu	Gly Asp Glu Ala	Ala	Ala Glu Leu
1775		1780		1785	
Ala Gln	Val Leu Pro Lys	Met	Gly Arg Leu Lys	Arg	Val Asp Leu
1790		1795		1800	
Glu Lys	Asn Gln Ile Thr	Ala	Leu Gly Ala Trp	Leu	Leu Ala Glu
1805		1810		1815	
Gly Leu	Ala Gln Gly Ser	Ser	Ile Gln Val Ile	Arg	Leu Trp Asn
1820		1825		1830	
Asn Pro	Ile Pro Cys Asp	Met	Ala Gln His Leu	Lys	Ser Gln Glu
1835		1840		1845	

Pro Arg Leu Asp Phe Ala Phe Phe Asp Asn Gln 'Pro Gln Ala Pro
1850 1855 1860

Trp Gly Thr
1865